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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 61 and 763

[AD-FRL-OPTS-3469-4]

Asbestos NESHAP Revision, Including Disposal of Asbestos Containing Materials Removed From Schools

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of proposed rule revision and opportunity for public hearing.

SUMMARY: These proposed amendments to the asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) require control device and fugitive emission monitoring, recordkeeping, and reporting for asbestos milling, manufacturing, and fabricating operations. For planned demolitions and renovations, the notification requirements are revised, and safety is added as a reason for exemption from the use of wet removal methods. Recordkeeping is required for asbestos waste disposal. Clarifying revisions are made to several definitions and provisions.

The existing standard and the proposed amendments implement section 112 of the Clean Air Act (CAA) and are based on the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (see 36 FR 3031 (March 31, 1971)). The standard proposed today amends the asbestos NESHAP to enhance enforcement and promote compliance with the current standard without altering the stringency of existing controls.

These regulations also would implement, in part, section 203(h) of the Asbestos Hazard Emergency Response Act (AHERA) to the extent they apply to disposal of asbestos removed from school buildings.

A public hearing will be held, if requested, to provide interested persons with an opportunity for oral presentation of data or views concerning the proposed amendments.

DATES: *Comments.* Comments must be received on or before March 7, 1989.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by January 31, 1989, a public hearing will be held on February 8, 1989 beginning at 10:00 a.m. Persons interested in attending the hearing should call Ms. Ann Eleanor at telephone no. 919–541–5578 to verify that a hearing will occur.

Request to Speak at Hearing. Persons wishing to present oral testimony must contact EPA by January 31, 1989.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate if possible) to: Central Docket Section (LE–131), South Conference Center, Room 4, Attention: Docket No. A–88–28, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460.

Public Hearing. If anyone contacts EPA requestng a public hearing, the hearing will be held at the EPA Office of Administration Auditorium, Research Triangle Park, North Carolina. Persons who want to present oral testimony should notify Ms. Ann Eleanor, Standards Development Branch (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone no. 919–541–5578. Persons interested in attending the hearing should call Ms. Ann Eleanor to verify that a hearing will occur.

Docket. Docket No. A–88–28, containing supporting information used in developing the proposed standards revisions, is available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday, at EPA's Central Docket Section, South Conference Center, Room 4, West Tower Lobby, Gallery 1, Waterside Mall, 401 M Street SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For information concerning the policy aspects of the proposed standard revisions, contact Mr. Sims Roy, Standards Development Branch, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone no. 919–541–5263. For information concerning technical aspects, contact Mr. Bruce Moore, Industrial Studies Branch, telephone no. 919–541–5460, at the same address.

SUPPLEMENTARY INFORMATION:

Introduction

Section 112(a)(1) of the CAA defines a "hazardous air pollutant" as one that the Administrator judges "causes or contributes to air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness." Section 112(b)(1)(A) of the CAA requires the Administrator to publish a list that includes each hazardous air pollutant for which he intends to establish an emission standard under this section. Asbestos was listed as a hazardous air pollutant under section 112 on March 31, 1971 (36 FR 3031).

Initial standards controlling milling, manufacturing, demolition, spraying, and roadway sources of asbestos emissions were promulgated on April 6, 1973 (38 FR 8820). These standards were based on the 1970 conclusion by the National Academy of Science (NAS) that asbestos emissions from major manmade sources should be minimized. On October 14, 1975, the demolition standards were revised to place additional requirements on demolitions ordered by State or local governments besides notification requirements already in effect, and the standard was expanded to cover renovation activities, use of asbestos in friable insulation, and waste disposal (40 FR 48299). Work practices covering emissions from demolition and renovation were amended on June 19, 1978 (43 FR 26372), and were repromulgated on April 5, 1984 (49 FR 13658), to reinstate work practice and equipment controls held not to be emission standards by the Supreme Court in its decision in *Adamo Wrecking Company v. United States*, 434 U.S. 275 (1978). The 1977 amendments to the CAA authorize work practice standards when it is not feasible to prescribe an emission standard. Such an instance occurs, for example, when a pollutant cannot be emitted through a conveyance designed and constructed to emit or capture such a pollutant or when a measurement methodology is not available.

A general review of the current asbestos NESHAP was undertaken to evaluate the consistency of the existing standard with current EPA policies for NESHAP regulatory development, the availability of improved emission controls, the need to improve compliance, and the integration of the NESHAP with other regulatory requirements. The EPA determined that, when complied with, the asbestos NESHAP is effective in reducing emissions and protecting the public health. However, EPA also concluded that many demolition and renovation sources do not comply with the removal and waste disposal provisions of the current standard, and that some additional work practices should be required. Also, there is a need for an explicit requirement to monitor air pollution control devices at milling, manufacturing, and fabricating sources to ensure their proper operation.

A risk-based approach was also considered in the review of the current asbestos NESHAP. However, questions regarding how EPA weighs a range of health, risk, and other factors in

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establishing an ample margin of safety for NESHAPs were raised in the District of Columbia Circuit Court decision in the *Natural Resources Defense Council v. EPA*, 824 F. 2d 1146 (D.C. Cir. 1987), "vinyl chloride case." In the vinyl chloride decision, the court prescribed a two-step process under which the Administrator must first determine an acceptable risk level based on consideration of health and risk factors alone, and then determine the level at which to set the standard in order to provide an ample margin of safety, which can include consideration of costs, feasibility, and other relevant factors. In connection with regulation of some sources of benzene, the Agency has recently published in the **Federal Register** (43 FR 28496) four proposed approaches for implementing the vinyl chloride decision. Public comment on these approaches is being sought, and these comments will be reviewed before the Administrator makes a decision regarding which approach to use to develop NESHAP standards. Until the NESHAP policy is clarified, EPA cannot complete its work on risk-based proposals for revision of the asbestos NESHAP. At this time, the Agency is merely revising the portions of the standard that are not risk-based to clarify their intent and to facilitate their enforcement.

Today's notice proposes to amend the NESHAP to enhance enforcement and improve compliance by (1) permitting the use of percent by area as an expression for the asbestos content of bulk materials; (2) adding monitoring and recordkeeping provisions for asbestos milling, manufacturing, and fabricating operations; (3) revising notification requirements for demolitions and renovations; (4) adding recordkeeping and reporting provisions for waste disposal; and (5) making other revisions that clarify the rule and its intent and implement enforcement determinations previously made. None of the proposed amendments affects the stringency of controls; accordingly, the amendments are not affected by the vinyl chloride decision.

The EPA may issue a second proposal at a later date that would include a review of the stringency of controls, and propose possible changes to the stringency of controls. Such a proposal would follow the "acceptable risk" and "ample margin of safety" requirements of the vinyl chloride decision.

These rules, to the extent they apply to disposal of asbestos from schools, are also being issued under authority of AHERA. AHERA enacted Title II (sections 201 thru 214) of the Toxic Substances Control Act (TSCA), codified at 15 U.S.C. 2641 thru 2654.

Section 203 of TSCA requires EPA to promulgate regulations governing asbestos-containing material in schools. The EPA is to issue several specific kinds of rules, including inspection rules, rules for determining appropriate actions to take in response to potential asbestos hazards and rules to require implementation of management plans for asbestos.

On October 17, 1987, EPA issued most of the regulations mandated by section 203 (52 FR 41826, October 30, 1987). The regulations are codified at 40 CFR Part 763, Subpart E. However, the Agency did not promulgate rules for asbestos waste disposal required under section 203(h). Failure to promulgate the disposal rules resulted from a decision EPA made when the section 203 rules were proposed in April 1987 (52 FR 15820). The EPA had reasoned that, since the asbestos NESHAP covers wastes from all buildings including schools, the section 203(h) disposal rules should be included in the NESHAP. At the time, NESHAP revisions were expected to be proposed in the summer of 1987. Due to the vinyl chloride decision, however, the NESHAP revisions were not proposed as expected.

The EPA continues to believe that it is inappropriate to have separate regulations for disposal of asbestos from schools and from other buildings. However, because of the uncertainty caused by the vinyl chloride opinion, EPA may issue final regulations under section 203(h) applicable only to disposal of asbestos from schools and may incorporate such regulations into 40 CFR Part 763, basing them on this proposal.

The standard under which these regulations are to be issued under TSCA Title II is provided by section 203(a), which requires that any regulation promulgated under section 203 "must protect human health and the environment." The EPA believes that these regulations will protect human health and the environment under the section 203(a) standard because they will facilitate enforcement of existing regulations governing disposal of asbestos from schools, as noted in this preamble. The EPA, however, does not believe that these regulations necessarily complete its obligation under section 203(h). If at a later date risk-based revisions to the NESHAP are issued, the remainder of the Agency's obligation under section 203(h) will be fulfilled.

This preamble first provides background information in the form of a brief description of the health effects associated with exposure to asbestos and a summary of the widespread Federal authority for regulating asbestos. The preamble then summarizes the proposed amendments. Next, the environmental, health, energy, and economic impacts of the proposed amendments are summarized. The rationale is then provided for each decision made in selecting the proposed amendments. Also discussed are the impacts of the recordkeeping and reporting requirements. Administrative considerations, including Executive Order 12291 and the Regulatory Flexibility Act (RFA) are described at the end of the preamble. The preamble consists of the following:

- Background
- Summary of Changes to Asbestos NESHAP
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  - —Demolition and Renovation
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- Summary of Environmental, Energy, and Economic Impacts
- Rationale
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  - —Milling, Manufacturing, and Fabricating
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  - —Definitions
- Impacts of Reporting Requirements
- Regulatory Flexibility Act
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- Docket
- Miscellaneous.

Background

Diseases associated with asbestos exposure include asbestosis, mesothelioma, cancer of the lung, and cancer of the gastrointestinal tract. Asbestosis is a pulmonary fibrosis caused by the accumulation of asbestos fibers in the lungs and is usually associated with occupational exposure to asbestos concentrations much higher than those that normally occur in outdoor air. Mesothelioma is a cancer of the pleura or the peritoneum. Mesotheliomas are rarely curable, and death usually results within a year of diagnosis. Asbestos-induced lung cancer usually has a latency period of more than 20 years, and few cases of lung cancer are curable. A number of epidemiologic studies of asbestos workers have indicated increases in esophageal, stomach, colorectal, kidney, laryngeal, pharyngeal, and buccal-cavity

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cancers, though at a smaller magnitude of increased cancer risk than lung cancer and mesothelioma. The health aspects of asbestos are discussed in the Health Effects Document for asbestos, which is available from the EPA Library (MD-35), Research Triangle Park, North Carolina 27711. Please refer to *Airborne Asbestos Health Assessment Update* (EPA 600/8-84/003f).

In evaluating the coverage and effectiveness of the existing asbestos standards under section 112, it is important to recognize the widespread use of Federal authority to control asbestos use and exposure. Within, EPA, regulations for asbestos have been issued under the CAA, TSCA, the Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), the Federal Water Pollution Control Act (FWPCA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Under the authority of TSCA, EPA has promulgated regulations requiring inspection for asbestos in schools, and has published regulations to require State/local governments not covered under Federal Occupational Safety and Health Administration (OSHA) requirements for asbestos abatement projects to comply with the Federal OSHA requirements. Under AHERA, EPA has promulgated regulations to protect public health and the environment from asbestos in school buildings. Additionally, EPA, under the authority of TSCA, has proposed to ban certain asbestos products and phase out other such products (51 FR 3738, January 29, 1986). Guidelines for proper disposal of asbestos waste have been published recently by EPA. Under CERCLA, EPA has developed a Reportable Quantity (RQ) of one (1) pound for asbestos waste. The EPA also has set asbestos effluent standards for some source categories (40 CFR 427) and developed water quality criteria (45 FR 79326) for asbestos.

Outside of EPA, the Department of Labor's OSHA and Mine Safety and Health Administration (MSHA) control workplace asbestos exposure levels. The OSHA has promulgated a revised workplace standard that reduces the allowable workplace exposure level as an 8-hour time-weighted-average (TWA) from 2.0 fibers per cubic centimeter (f/cc) to 0.2 f/cc (29 CFR 1910.1001 and 29 CFR 1926.58). The OSHA regulations protect workers (the NESHAP protects public health principally) and require certain actions, such as the use of wetting techniques, to prevent the workplace concentrations from reaching the permissible exposure limit of 0.2 f/cc. Asbestos use in some consumer products is regulated by the Consumer Product Safety Commission (CPSC). The U.S. Department of Transportation (DOT) has regulations covering the transportation of asbestos and asbestos products. Recently, DOT promulgated regulations in compliance with the Superfund Amendments and Reauthorization Act (SARA) of 1986 that cover the transportation of asbestos-containing waste material (51 FR 42174, November 21, 1986). The effective date of these regulations was subsequently delayed to July 1, 1987.

Summary of Changes to Asbestos NESHAP

General

The regulation is reorganized by combining applicability, notification requirements, and procedures for asbestos emission control into a single standard for demolition and renovation. It requires milling, manufacturing, and fabricating operations to monitor visible emissions daily, inspect air cleaning devices weekly, and keep records. The regulation also requires recordkeeping and reporting for waste disposal activities.

In general, compliance with the NESHAP approaches 100 percent for all operations except demolition and renovation, including disposal of demolition and renovation waste, where it is estimated to be about 50 percent for demolition and about 80 percent for renovation. As a result of this noncompliance, significant asbestos emissions occur, with those from the disposal of demolition waste greatly exceeding other emissions, including those from asbestos milling, manufacturing, and fabricating. Several amendments are proposed to improve compliance with and enforceability of the NESHAP and to help ensure proper operation and maintenance of control equipment.

Milling, Manufacturing, and Fabricating Sources

This proposal requires asbestos milling, manufacturing, and fabricating sources to perform daily monitoring for visible emissions and weekly inspection of air cleaning devices.

Demolition and Renovation

This proposal clarifies the definition of demolition to recognize that intentional burning is a method of demolition. An additional notification provision requires owners or operators to contact EPA in advance of the actual start date if the demolition or renovation will begin on a date other than the one specified in the original notification. The requirement that the on-site supervisor at asbestos removals be trained in procedures for removal and handling of asbestos-containing material in accordance with the NESHAP is also a new provision in the regulation.

Waste Disposal

An amendment is proposed to make the waste disposal site operator responsible for complying with the waste disposal site provisions. Under the current NESHAP, the waste generator is responsible for selecting a disposal site that meets the waste disposal requirements of the NESHAP. A new requirement is added for keeping records that show the location and quantity of asbestos waste disposed of at disposal sites and for noting this information on the deed to property when the site becomes inactive.

Summary of Environmental, Energy, and Economic Impacts

The environmental, energy, and economic impacts of the proposed amendments for demolition and renovation, including waste disposal, were estimated from two baselines. One is full compliance with the NESHAP, and the other is current use of engineering controls and work practices. Enforcement experience indicates that many asbestos removal operations related to demolition and the subsequent waste disposal operations related to both demolition and renovation are performed out of compliance with the NESHAP. The lack of compliance with the NESHAP removal provisions leads to the improper disposal of some waste, especially demolition waste, with the result that emissions from the disposal of demolition waste greatly exceed other emissions, including process emissions from milling, manufacturing, and fabricating. Liability and other considerations generally lead the owners of buildings being renovated to follow or even exceed the requirements of the NESHAP. Thus, the baseline for demolition and renovation is current use of work practices rather than full compliance. At asbestos milling, manufacturing, and fabricating facilities, the required air pollution control devices are generally in place. Thus, for milling, manufacturing, and fabricating, full compliance with the NESHAP, including the waste disposal requirements, is assumed for the baseline.

Impacts of the demolition and renovation amendments are based on estimated annual emissions of asbestos. Emission estimates are the product of

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emissions per unit of asbestos removed and disposed of and the average quantity of asbestos removed and disposed of annually. The annual amount of asbestos removed and waste generated was estimated using representative models of asbestos-containing structures and projections of the average number of demolitions and renovations for an 83-year period (i.e., the time during which all asbestos-containing structures are expected to be demolished or renovated to remove asbestos). Impacts of the proposed amendments, including the waste disposal provisions, for milling, manufacturing, and fabricating are based in part on information from confidential data submitted to the Office of Pesticides and Toxic Substances (OPTS) under section 8(a) of TSCA and on information obtained under section 114 of CAA.

Little emission measurement data exist for asbestos sources. Thus, emissions were estimated using engineering methods and numerous assumptions, which resulted in substantial uncertainty. A detailed description of the approaches used to estimate emissions is found in "Asbestos Emission Estimates for Milling, Manufacturing, Fabricating, Demolition, Renovation, and Waste Disposal," which is contained in Docket A–88–28. Estimated emissions from asbestos removal activities associated with demolition and renovation assuming full compliance are about 700 kg/yr. Estimated emissions from waste disposal, assuming full compliance with the NESHAP by all sources, are about 600 kg/yr. Estimated process emissions under the current NESHAP at full compliance for milling, manufacturing, and fabricating are approximately 7,400 kg/yr.

As has been stated previously, enforcement experience indicates that a significant amount of asbestos material is handled out of compliance with some of the provisions of the NESHAP. An estimated 50 percent of asbestos removal operations related to demolition and renovation are performed without EPA notification, implying that many asbestos removals and the subsequent waste disposal operations are performed out of compliance with the NESHAP. However, without precise information on the relationship between notifications and level of compliance, the actual degree of compliance with the NESHAP is uncertain. The amendments being proposed today are intended to increase the level of compliance with the demolition and renovation provisions, thereby reducing emissions, yet the extent to which emissions would be reduced by the proposed amendments cannot be quantified precisely.

The following estimates of nationwide emissions are based on current practices. Emissions for milling, manufacturing, and fabricating are the same as for full compliance. Estimated emissions from demolition and renovation are approximately 1,300 kg/yr. Estimated waste disposal emissions from all waste are 227,000 kg/yr.

The costs of the proposed amendments are expected to be small relative to normal operating costs for these industries. The amendments are intended to promote compliance and codify existing good practices. Small additional costs are associated with the recordkeeping and reporting requirements of the amendments. Economic impacts of the alternatives included in this proposal are expected to be minimal. Adverse impacts of the proposed amendments on water, noise, and energy were considered. Due to the nature of the amendments, no significant adverse impacts on water, noise, or energy are anticipated.

Rationale

Demolition and Renovation

Sections 61.145 through 61.147 of the existing asbestos NESHAP require removal of friable asbestos materials prior to demolition and require controls during removals associated with demolition or renovation. Costs and benefits attributable to the NESHAP for asbestos removal during renovation are difficult to establish because removal operations are also subject to the requirements of existing State and OSHA regulations for occupational exposure. As noted earlier, EPA has promulgated regulations under the authority of AHERA that cover asbestos removals at school buildings. Furthermore, many renovations already use controls exceeding those in the NESHAP because of the concern over occupant exposure once the renovation is completed and the building is returned to use. In demolition, however, occupant exposure is not typically a factor so that asbestos removal is generally not as strictly controlled as it is in renovation. Thus, the potential for emissions is usually greater in a demolition than in a renovation.

The major provisions of the current demolition standard are the requirement for removal (and control during removal) of friable asbestos material prior to demolition and the requirement for proper waste disposal. Because these two provisions are tied intimately to one another (i.e., the waste disposal provisions cover the waste generated by the removal requirement), the impacts related to asbestos removal and waste disposal must be considered together in evaluating amendments to the demolition standard.

As explained above, the existing NESHAP was evaluated at two levels of compliance. It was evaluated at full compliance and, because enforcement experience indicates substantial noncompliance, it also was evaluated based on current practice. At full compliance, nationwide asbestos emissions from removal and waste disposal under the current NESHAP would be an estimated 1,100 kg/yr. The uncertainty associated with estimates of emissions is very large.

The extent to which asbestos is handled out of compliance with the NESHAP demolition and renovation regulations is uncertain and depends on various factors. For example, because of OSHA and State and local regulations and pressures from other sources, including the general public, renovations and waste from renovations may be well-controlled even if EPA is not notified. Removal emissions associated with renovation are small and do not constitute a significant fraction of the total emissions from removal and waste disposal combined. Demolitions, however, are not affected by other regulations to the extent that renovations are. Thus, the absence of a notification may indicate that an asbestos-containing structure is demolished with the asbestos left in place. However, asbestos emissions from the disposal of the demolition debris may be overstated because some of the waste might still be incidentally deposited in a landfill and covered. Under the existing NESHAP, assuming 50 percent compliance with the notification requirement, nationwide asbestos emissions are estimated as about 228,000 kg/yr. Increasing compliance to 100 percent would reduce estimated emissions to 1,100 kg/yr, a decrease of approximately 227,000 kg/yr. Considering the magnitude of asbestos emissions associated with current practice, amendments are being proposed to facilitate enforcement and promote compliance.

A proposed revision to the standard includes the addition of a volume equivalent of 1 m^3 (35 ft^3) in addition to the 15 m^2 (160 ft^2) and 80 m (260 ft). A volume of 1 m^3 is equivalent to 15 m^2 of asbestos assuming a typical thickness of 7.6 cm (3 in.). This was requested by enforcement officials who stated that they often arrive at asbestos removal

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operations, for which no notice was given, and find the asbestos already in containers. A volume equivalent will facilitate the determination of how much asbestos is involved.

A statement is added to clarify that the asbestos-containing materials to which the standards are applicable are friable asbestos materials and also materials that are nonfriable but may be broken or crumbled and emit asbestos fiber during demolition operations if not removed and disposed of properly. For example, asbestos cement board is not considered friable or likely to emit asbestos fibers under normal usage. However, if fractured or crushed during a demolition or renovation, it will emit fibers and, under today's proposal, would be considered friable under those conditions. Some nonfriable asbestos-containing materials, such as packings, gaskets, asphalt roofing, and vinyl flooring, that normally do not emit asbestos fibers are not subject to the removal and disposal provisions of the standard; however, even these nonfriable materials may be subject to regulation under certain conditions e.g., during the sanding of vinyl-asbestos flooring or when asphalt roofing is old and severely weathered. Under the proposed amendments, the amounts of these nonfriable materials must be estimated and reported if a notification is required. The amounts of nonfriable materials, such as asbestos-cement products, that potentially can emit fibers must be included in the quantities reported in the notification.

Several amendments being proposed today are intended to promote notification and increase compliance. These provisions include allowing a uniform 10-day period for written notification of all planned demolitions or renovations. This uniform notification requirement has been requested by industry and enforcement representatives and, in conjunction with the other notification requirements that would be added, is expected to improve compliance because it is simpler and easier to understand. However, the degree to which compliance would be improved over current practices cannot be quantified precisely. To assist enforcement personnel in tracking asbestos demolitions, notification is required by the following workday for demolitions ordered by State or local government agencies and not later than the following working day after stripping or removal work begins for emergency renovations. If asbestos removal at a demolition or renovation site starts on a date other than that specified in the notice or if the other reported information changes, renotification is required and must be postmarked at least 5 working days or received at least 3 working days prior to the new start date. Notices that are mailed are required to be sent by certified mail, return receipt requested, in order to allow the contractor to demonstrate that EPA was notified. Further, § 61.145(b) is amended by prohibiting asbestos removal at demolitions and renovations from starting on any date other than the one contained in the applicable notification. The purpose of this amendment is to allow enforcement personnel to observe removal operations at demolition and renovation sites. This requirement is needed because some asbestos removal operations are completed before the starting dates specified in the notification, precluding inspections for compliance by enforcement personnel.

The notification provisions have been revised to require, in addition to the name and address, the telephone number of both the owner and operator to provide enforcement personnel with information necessary to track compliance activity and to prioritize inspections. The proposed amendments clarify that, if the demolition or renovation operation will involve less than the total amount of asbestos material in the facility, only the amount to be removed has to be reported. The revised notification provisions require that information on the amount of potentially friable asbestos-containing material and the amount of nonfriable asbestos-containing material that will not become friable in the course of the demolition and renovation be reported in the notification. In addition, the owner or operator submitting a notification is required to include the procedure employed to detect the presence of asbestos materials as part of the notification. Knowing the procedure used, enforcement personnel are better able to evaluate the adequacy of the building survey and asbestos analysis already required by the current standard. Because building survey and analysis are already required, the additional cost of describing the procedure employed is negligible.

To ensure that an effort is made to locate all of the asbestos, the current notification provisions require owners or operators of demolitions and renovations to identify all asbestos, including asbestos that is encased or covered by a nonasbestos material, prior to beginning operations that would break up or preclude access to the material for subsequent removal. For example, the current NESHAP has been correctly interpreted to require that friable asbestos pipe lagging covered with a nonfriable painted canvas or metal jacket must be included in the notification and removed prior to a demolition or renovation that would disturb the asbestos or preclude access to it. Given the nature and complexity of some renovations and demolitions, it is possible that some asbestos may not be discovered until after demolition or renovation has begun or previously nonfriable material may become friable. To cover these situations, the proposed amendments will add a requirement for owners or operators to include contingency plans in their notifications describing what they will do if they find unexpected asbestos or if previously nonfriable material becomes friable. Under the current standards, the demolition or renovation work would have to cease until EPA was notified, but EPA decided that this would be unnecessary provided contingency plans are included in the notification. For asbestos that is not discovered until after demolition begins, the owner or operator is given the choice of removing the asbestos or, if removal cannot be done safely, keeping the asbestos and asbestos-contaminated debris wet. This revision is proposed in recognition of a situation in which worker safety may be threatened and provides a reasonable alternative while adequately controlling emissions. The only other exceptions to the requirements to remove friable asbestos are found in § 61.145(a)(3), which applies to facilities demolished under a State or local government order, and in § 61.145(c)(1)(i), which applies to friable material encased in concrete. In both of these instances, wetting of the asbestos is still required.

Another proposed amendment requires the owner or operator submitting a notification to certify that at least one on-site representative, such as a foreman or management-level person trained as required by § 61.145(c)(8), will supervise the demolition and renovation covered by the notification. Another amendment to this section specifies that the start and completion dates required in the notification pertain to the dates that asbestos removal and related operations, such as site preparation, will begin and end in addition to the scheduled starting and completion dates of the demolition, wrecking, or renovation. Waiting periods between notification and initiation of work also are clarified to state explicitly that they refer to the initiation of asbestos stripping and removal and related work. This clarifies the regulation to read as it

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currently is interpreted and would permit certain demolition and renovation activities (such as site preparation, the removal of salvageable fixtures and equipment, and other activities that do not disturb asbestos or preclude access to the material) to begin before the required waiting periods expire. It does not permit the demolition of nonasbestos structures before the required waiting period. This accommodates the contractors' need to initiate various activities at demolition and renovation sites while giving enforcement personnel adequate advance notice.

The notification must state whether it is for a demolition or a renovation. In addition, a proposed amendment clarifies the current requirement that notifications must be made for all demolitions, even when no asbestos is present, in order to promote compliance and aid enforcement. In addition, a provision is added that makes it clear that planned renovations involving less than the specified amounts of asbestos are not subject to the notification provisions of the regulation.

Additional notification requirements have been added for State or local government-ordered demolitions, § 61.145(b)(4)(xiii), and emergency renovations, § 61.145(b)(xiv). Notification regarding ordered demolitions must now include the date the order was issued and the date on which the demolition was ordered to begin. This change was requested by enforcement officials who were concerned that, without this requirement, the notification provisions for ordered demolitions would be abused. For emergency renovations, additonal information is required on the nature of the sudden unexpected event that necessitated the emergency renovation. This change was also requested by enforcement officials to prevent circumvention of the notification requirements by contractors claiming that a renovation was an emergency.

To clarify whether planned renovations involving individual, nonscheduled operations must comply with the notification provisions of § 61.145(b), paragraph (a)(4)(i), is modified to require that the additive amount of asbestos to be removed or stripped over a calendar year of January 1 through December 31 be used instead of over the "maximum period of time a prediction can be made not to exceed 1 year." This clarifies the intent of the current regulation to cover individual, nonscheduled asbestos removal operations involving small amounts of asbestos if the total amount of asbestos that will be removed in 1 year is projected to exceed the quantities of asbestos specified in § 61.145(a). When individual renovations exceed the cutoff, a separate notification is required.

In the interest of worker safety, safety will be permitted as a reason for exemption from the requirement to use wet methods during removal although § 61.145(c)(3) will be revised to require that the Administrator's approval is obtained before removal begins. This provision is intended to cover obvious safety hazards such as electrical hazards and, in some instances, hot pipes or other facility components, which are not now mentioned in the regulation. The EPA recognizes that what constitutes safety hazard may be open to interpretation; however, the Administrator must make that determination on a case-by-case basis. For example, hot pipes may be the basis for an exemption from wetting. In some situations, however, the Administrator may determine that it is reasonable for a process to be shut down to allow the use of wet methods. The EPA does not intend for OSHA regulations to be violated in order to comply with the NESHAP.

Provisions are added that specify the conditions under which large pieces of asbestos-covered or asbestos-coated equipment can be removed from a facility and transported, stored, and reused without first stripping the asbestos. The addition of this provision recognizes that situations arise where certain large pieces of equipment can be removed and eventually reused without disturbing the asbestos.

An amendment to § 61.145(c)(3)(i)(B) will allow two new work practices in addition to the local exhaust ventilation system currently permitted for renovations where wetting would damage equipment or pose a safety hazard. The new work practices are use of glove bag systems and covering friable material in leak-tight wrapping prior to removal.

The glove bag is similar in principle to glove boxes used to confine and handle hazardous materials in laboratories and is a proven control technology widely used for small jobs. Glove bags, when properly designed, installed, and used, provide nearly complete isolation of the asbestos material. When properly used, they are at least as good as and probably superior to the use of local exhaust ventilation. They typically are used in conjunction with wet removals where the wetting is done inside the bag, but glove bags also can be used with dry removal techniques as well as with a High-Efficiency Particulate Air (HEPA) powered vacuum system for evacuating the bag. The EPA intends for glove bags to be used with wet removal methods inside the glove bags. While glovebags offer potential advantages, recent EPA and NIOSH studies have indicated potential problems with their use. Work place asbestos concentrations during glovebag use have exceeded the OSHA permissible exposure limit. Although the source of the elevated asbestos levels was not identified, potential sources of fiber release include air leaks, and vibrations in the pipe outside the glovebags. Workers should be made aware of these potential problems and instructed in the proper installation and use of glovebags. In addition, it is recommended that any worker using glove bags be protected by a respirator.

Covering friable material with leak-tight wrapping prior to removal also prevents asbestos emissions from being released into the air and provides an alternative to stripping the asbestos, which increases the likelihood of asbestos emissions. Permitting the use of these two work practices acknowledges changes that have taken place in removal methods and increases the number of options open to demolition and renovation contractors for compliance with this regulation.

Section 61.145(c)(4) is revised to allow operators to cover and seal facility components with a lead-tight wrapping for removing the components intact from a facility. This method is an effective means of emission control and is currently in use. A provision also is added that permits the Administrator to approve equivalent control methods other than the wetting, glove bags, or leak-tight wrapping methods already allowed. (This provision is also covered under the General Provisions, but it is included in this subpart for convenience.) So that inspectors can readily determine if alternative methods have received Administrator approval, a copy of the approval is required to be kept at the demolition or renovation site for inspection. Section 61.145(c) is revised to apply to all asbestos material including materials that have been stripped or removed. This is intended to clarify that materials that were not stripped but may have fallen off facility components must be treated the same as those that were stripped. Section 61.145(c)(6)(iv) is added to clarify that materials that have been removed and were contained in leak-tight wrappings do not need to be unwrapped and wetted.

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Section 61.145(c)(8) adds the requirement that all asbestos material be stripped, removed, and otherwise handled by a contractor or by a representative of the facility owner or operator trained in the provisions of this regulation and the means of complying with them. This requirement will ensure that an on-site supervisor, such as a foreman or management-level person, has a knowledge of this regulation and approved methods of asbestos removal and handling. The training on-site supervisor does not have to be at the site at all times but must present for a time sufficient to provide supervision of asbestos-related operations. In addition, this proposed amendment requires that evidence that training has been accomplished be made available for inspection by EPA during normal business hours. This training does not replace the training requirements of OSHA's workplace regulation (29 CFR 1926.58) or the general training recommended by EPA. The ultimate objective of this requirement is increased compliance with this regulation and decreased emissions. The annual cost of training in the provisions of NESHAP is estimated to be about $1.9 million.

Comments made to EPA question the intent of the requirements in § 61.145(c) for lowering stripped or removed materials to the ground or lower floors. The standard requires all facility components that have been removed in units or sections to be carefully lowered to the ground. Asbestos material, other than that on facility components removed in sections or units, also must be carefully lowered to the ground or lower floors. If the asbestos-containing material is more than 50 feet above the ground, it may be transported by a leak-tight chute or container. In all cases, it is the intent of the standard that asbestos materials be lowered carefully to the ground or a lower floor to the greatest extent possible, not dropped or thrown. The use of a leak-tight chute to transport material stripped or removed 50 feet above ground level is one exception to this. Another exception occurs during the stripping of asbestos material from facility components. In these instances, it is not always practical to prevent the stripped material from falling to the ground or floor, e.g., during the stripping of asbestos material from ceilings.

In addition to the proposed revisions discussed above, several editorial changes are proposed that are intended to clarify the intent of the regulation as it is now written and make it more understandable. The changes consist primarily of adding a phrase or substituting terms for clarity and are based on comments from both enforcement agencies and industry. One significant clarifying revision to the demolition and renovation requirements deals with the friability of materials and is discussed under the Definitions section of this preamble.

The overall costs associated with these proposed amendments cannot be quantified but are expected to be small compared to actual removal and disposal costs. Benefits also cannot be quantified precisely but should be commensurate with the increase in compliance up to the benefits estimated for full compliance.

Comments on the proposed demolition and renovation standards were submitted by the National Association of Demolition Contractors (NADC), many of whose members perform asbestos removal work. In general, NADC believes that an increasingly stringent regulation increases noncompliance and results in increased emissions rather than producing the desired opposite effect. The NADC cites as reasons for current noncompliance the notification requirements that treat late notifications the same as no notification, and the difficulty of identifying all asbestos in a structure prior to demolition. Contractors' concerns that an inspection may discover the unsuspected presence of asbestos resulting in a citation and the job delayed while notifying EPA are additional reasons notification may not be given. The NADC claims that the contractors feel that no matter how hard they try to comply with the NESHAP, they are going to be found out of compliance with some provision. They believe that by not notifying EPA, their chances of being found in violation are substantially decreased. Finally, NADC feels that another reason for noncompliance is the perception that the current NESHAP is not effective in reducing emissions.

In describing ways to promote compliance with the NESHAP, NADC suggests developing separate requirements for demolition and renovation because of differences in job characteristics, the extensive use of large equipment in demolitions as opposed to slower manual techniques in renovations, differences in resulting waste characteristics, and less concern about water damage at the job site from controlling dust with water at demolitions. A property owner who wants a building demolished is not as concerned about having a careful asbestos removal job done as a property owner who wants to have the asbestos removed as part of a renovation and is concerned about his liability as a result of the removal operation. The NADC suggests that simplification of the regulation would help promote compliance because most demolition contractors are small businesses lacking the educational and technical background to fully understand all the details of the regulation. The NADC also suggests that asbestos materials that are tightly bound in a matrix and difficult to break should be excluded from the regulation because they are not likely to release many asbestos fibers. Several NADC recommendations are intended to facilitate notification, including a 10-day notice for all jobs with approximate start and completion dates followed by a telephone notification giving specific starting dates. The written notification would be on a form required by EPA.

The NADC recommends that each on-site supervisor be trained and suggested giving contractors some discretion in selecting appropriate control methods rather than prescribing specific work practices to be followed in all situations. Finally, the NADC suggests that there be a procedure whereby unintentional violations could be corrected quickly without severe economic consequences resulting from imposed fines or lengthy delays.

The NADC comments include recommendations for reducing asbestos emissions, including development of regulations for abandoned buildings and reduction of disposal costs to promote proper disposal. Disposal costs could be reduced, according to NADC, by avoiding requirements for special handling or segregation methods and avoiding special recordkeeping requirements that will cause some disposal site owners to charge more for asbestos waste in order to cover potential liability costs and will discourage others from accepting asbestos waste. To promote the use of proper disposal sites, disposal sites should be encouraged to accept all asbestos waste and not question its source or condition.

The EPA has been evaluating NADC's comments and believes some have merit. Several of their comments have already been addressed in the proposed standard. The EPA is interested in receiving comments on any of the issues suggested by NADC as likely to improve compliance.

Milling, Manufacturing, and Fabricating

Under the existing standard, the owner or operator of an affected milling, manufacturing, or fabricating source may meet a no-visible-emission limit or

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install emission control equipment meeting the specifications described under § 61.154. Section 61.154 includes specifications for baghouses, but it also allows the use of wet collectors (i.e., scrubbers) if fabric filters create a fire or explosion hazard.

Amendments are being proposed that will retain the existing controls now in place and add monitoring and recordkeeping provisions at a reasonable cost that will help ensure continued low emissions. Under these amendments, the owners or operators of milling, manufacturing, or fabricating operations are required to perfom daily monitoring for visible emissions from operating control devices and process fugitive sources and weekly inspections of control devices, maintain records of monitoring and inspections results, and submit quarterly reports to EPA of results of visible emission monitoring, if visible emissions occur during the reporting period. The recordkeeping and reporting requirements will provide information to EPA that can be used to alert enforcement personnel of operating problems at individual sources and aid in determining compliance.

Some control device inlet loadings are high enough that visible emissions could occur during a malfunction of a control device. For these sources, visible emissions could be useful as an early indicator of a malfunction. A 15-second observation period for visible emission monitoring of each control device is proposed. Visible emission monitoring will identify problems and help to ensure that pollution control equipment achieves its design emission reduction potential; weekly inspection of control devices will permit the early identification and correction of problems that could lead to baghouse failure and increased emissions. Some small air-cleaning devices do not permit ready access for the interior inspection of bags. For such devices, the owner or operator will be required to submit a maintenance plan for the Administrator's approval. The maintenance plan must include, as a minimum, recordkeeping and a maintenance schedule. According to industry sources, visual monitoring and inspection are already practices at many facilities.

The EPA is proposing to delete the 4-inch water gage requirement in § 61.152 for all existing and new baghouses because many baghouses remove particles at high efficiencies at higher pressure drops. The proposed standard allows the Administrator to authorize the substitution of a wet collector for a fabric filter when it is determined that a fabric filter is not feasible. Such situations may occur, for example, when a gas stream has a high moisture content or the particles are sticky and would cause blinding of a fabric filter. The current standard only permits the use of wet collectors when a fire or explosion hazard attends the use of a fabric filter.

Visible emissions from fugitive sources at milling, manufacturing, and fabricating operations are also prohibited. This amendment is not a new requirement because it clarifies the intent of the regulation as it is currently implemented.

Assuming 100 percent compliance with the existing control requirements, nationwide asbestos emissions from milling, manufacturing, and fabricating are estimated to total 7,400 kg/yr. The uncertainty associated with estimates of emissions is large and was discussed previously. The actual degree of compliance at present is unverifiable because of the lack of explicit monitoring, inspection, recordkeeping, and reporting requirements. However, industry sources indicate that monitoring and inspection are currently practiced by most asbestos milling, manufacturing, and fabricating sources; therefore, additional costs resulting from these provisions should be small. The recordkeeping and reporting costs also are estimated to be small and are included in the impacts of the reporting requirements. The benefits of the monitoring, inspection, recordkeeping, and reporting provisions are unquantifiable, but the provisions will aid enforcement and improve compliance so that emissions and health risks close to the estimates for 100 percent compliance are attained.

Section 61.144(a)(9) is also revised by specifying that chlorine manufacturing that uses asbestos diaphragm technology is regulated by the NESHAP and not chlorine manufacturing that uses other technologies. This is a clarifying amendment; therefore, no costs are associated with this change.

Paragraph (a) of § 61.153 on reporting requirements is clarified to instruct new and existing million, manufacturing, and fabricating operations under what conditions and when they must report certain information on emission control equipment and processes that generate asbestos emissions. Because this amendment is a clarification, there are no associated costs.

Waste Disposal

Provisions for the disposal of asbestos-containing waste material are contained in the NESHAP under the authority of the CAA and AHERA. RCRA regulates the disposal of solid waste as either a hazardous or nonhazardous waste. Asbestos is not listed as a hazardous waste under Subtitle C of RCRA; therefore, it is regulated as a Subtitle D waste and is subject to the standards contained in 40 CFR Parts 257 and 258. Revised Subtitle D standards were proposed recently (53 FR 33314, August 30, 1988), and changes to 40 CFR Parts 257 and 258 apply to asbestos-containing waste. The waste shipment records being proposed in the asbestos NESHAP are similar to the manifest requirements of Subtitle C, whereas Subtitle D contains no recordkeeping requirements. The current asbestos NESHAP requirement for daily cover is more specific than are the requirements of Subtitle D. Asbestos is generally thought not to be a threat to ground-water quality, although asbestos-containing waste may contain constituents other than asbestos that may pose a threat to ground-water quality. For all of these reasons, EPA has determined that the asbestos NESHAP is the most efficient way for the Agency to regulate the disposal of asbestos-containing waste material at this time. Other regulations have been promulgated that cover specific problems. The DOT has promulgated regulations that cover the transportation of asbestos-containing waste material, and EPA has promulgated regulations specifically governing removal of asbestos from school buildings under the authority of AHERA.

The existing asbestos NESHAP defines responsibilities for asbestos waste disposal and requires either no visible emissions or the use of specific disposal methods for asbestos mills; manufacturing, fabricating, demolition, renovation, and spraying operations; inactive disposal sites for asbestos mills and manufacturing and fabricating operations; and active disposal sites. As was stated earlier, enforcement experience indicates that approximately 50 percent of asbestos removal operations related to demolition and renovation are performed without EPA notification. This implies that a significant volume of demolition and renovation waste may be disposed of out of compliance with the existing NESHAP. The actual degree of noncompliance cannot be determined because of a lack of reasonably available information on the relationship between notifications and compliance with the waste disposal requirements. Risks from uncontrolled sources can be very large; therefore, amendments to the existing NESHAP are being proposed to aid enforcement and improve compliance. In addition,

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responsibility for waste management and disposal is explicitly defined. Also, the proposed reporting and recordkeeping requirements are consistent with EPA guidelines published in *Asbestos Waste Management Guidance* (EPA/530-SW-85-007, May 1985) for asbestos waste disposal.

A provision is added that requires the broken edges of nonfriable asbestos material to be wetted or encapsulated. This change is intended to help clarify the intent of the regulation as it is now written. This is aimed principally at many asbestos-cement products that are normally nonfriable when whole but that may release fibers when broken. If the broken edges are treated so that the asbestos fibers are sealed in, the material does not have to be put into leak-tight enclosures prior to its disposal in a NESHAP landfill. If the edges are wetted but not sealed, the material would have to be placed in leak-tight enclosures for disposal in a NESHAP landfill.

The handling and disposing of waste resulting from the demolition of buildings where the asbestos is encased in concrete is clarified to include similarly hard material. A compliance option is added for the situation where the asbestos was not discovered until after demolition began. The types of nonfriable asbestos that needed not be removed before demolition are specified § 61.145(c)(1)(iii)).

A new provision (§ 61.155) is added that allows the Administrator to approve waste treatment methods that destroy or transform asbestos-containing waste into nonasbestos material and specifies the information that the Administrator needs to make such determinations. Provisions that specify testing for the presence of asbestos in the output material are added in addition to provisions that require key process parameters to be continuously monitored. Prior to disposal, process output materials will be determined to be asbestos-free using transmission electron microscopy (TEM), or the location of their disposal recorded. These provisions are needed in view of requests received by EPA for approval of new asbestos waste treatment methods.

Milling, manufacturing, and fabricating facilities and demolition and renovation contractors will be required to prepare and maintain records of waste shipments and submit semiannual reports to EPA summarizing waste shipment records. In addition, they will be required to furnish a copy of the record of the waste shipment to the owner or operator of the disposal site. The most likely mechanism will be to send a copy of the record along with the waste transporters. This requirement will establish a record of the chain-of-custody and alert enforcement personnel of potential violations of the waste disposal requirements. In addition, all containers of waste will be required to be labeled with the waste generator's name and location of the site where the asbestos waste was generated. This requirement will enable enforcement personnel to enforce the requirements for leak-tight containers where asbestos from multiple job sites are in a single vehicle. It will assist enforcement officials in tracking asbestos waste shipments and in determining that asbestos waste is being properly disposed of and result in increased compliance.

At present, the waste generator is responsible for selecting a disposal site that meets the asbestos waste disposal requirements of the NESHAP. The proposed amendments also make the disposal site owner or operator responsible for complying with the NESHAP provisions for waste disposal sites. Enforcement officials have stated that the current waste disposal provisions are difficult to enforce because the responsible party, the generator, does not have sufficient control of the disposal practices used at the disposal site. This proposed amendment should increase compliance with the NESHAP provisions at an active disposal site by making each party responsible. Specifically, the waste generator is responsible for selecting a disposal site that meets the NESHAP requirements, and the waste site operator is required to comply with the work practice provisions at the waste disposal site. All waste must be disposed of at the site specified on the waste shipment record. The generator may haul his own waste, contract with the disposal site operator for hauling services, or contract with an independent hauler. A requirement also is added to require the Administrator's approval before removal or disturbance of previously deposited asbestos material at both active and inactive disposal sites. In making a decision on the request, the Administrator will consider the following: (1) Reason for moving or removing the waste, (2) procedures to be used to control emissions, and (3) location of the final disposal site. At a minimum, the asbestos waste should be handled in a wet condition until final disposal. In addition, waste disposal site operators will be required to document all asbestos waste shipments that are received, document the arrival of improperly contained waste, investigate discrepancies between waste shipment records and waste actually received, document the location and quantity of asbestos in a landfill, and record the presence and location of asbestos and the asbestos NESHAP regulatory authority over the disposal site on the property deed. Waste disposal site operators also will be required to submit semiannual reports to EPA summarizing activities involving the disposal of asbestos-containing waste. Enforcement personnel have noted that asbestos waste that is not properly documented may lead to future exposures if sites are disturbed. These requirements will aid enforcement in tracking shipments of waste to ensure compliance and help avoid possible recurrence of inadvertent exposure incidents as have been found by EPA by ensuring that future owners and users of land are alerted to the presence of asbestos waste and take adequate precautions if the waste is disturbed. These requirements are consistent with EPA's intent to prevent public exposure to asbestos emissions from waste disposal sites. These requirements are considered reasonable because expected costs are small and some sites already use special precautions when disposing of asbestos waste.

To retain control over disposal sites that have already become inactive, the current provisions of § 61.151 for inactive disposal sites are retained with only a few modifications. A provision is added allowing the use of crushed stone as a final cover in desert areas where a vegetative cover is difficult to establish and maintain. This amendment offers greater flexibility without affecting control stringency. The provisions for inactive tailing piles are revised to clarify the standard's current intent that dust suppression agents be used in a manner to maintain dust control.

The provisions that allow the Administrator to approve alternative control methods are modified to give more detailed instructions on requesting approval of alternative methods. This change is intended to clarify the regulation by indicating what criteria are used by the Administrator in ruling on alternative control methods.

Vehicles used to transport waste are required to display placards warning of the presence of asbestos during the loading and unloading of waste. Such a measure will warn persons of the asbestos hazard and help prevent accidental exposures to asbestos during loading and unloading. The DOT regulations require placards during

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transportation of asbestos-containing waste.

Table 1 presents the estimated nationwide asbestos emissions from disposal of demolition and renovation wastes for different levels of control. Full compliance with the current NESHAP would result in estimated emissions of about 400 kg/yr. However, if (as enforcement experience implies) a significant percentage of demolition and renovation wastes may be disposed of out of compliance, estimated emissions are actually 227,000 kg/yr. Most of these emissions, an estimated 226,000 kg/yr, result from the improper disposal of asbestos waste from demolition and greatly exceed other asbestos emissions. These revisions are intended to improve compliance that will reduce asbestos emissions.

TABLE 1.—ESTIMATED NATIONWIDE ASBESTOS EMISSIONS FROM DEMOLITION AND RENOVATION,[a] kg/yr

Level of control	Asbestos removable		Waste disposal		Total
	Demolition	Renovation	Demolition	Renovation	
Current NESHAP (full compliance)	700	9	380	2	1,100
Current NESHAP (current practice)[b]	1,300	13	226,000	1,000	228,300

[a] See Preamble test for discussion of uncertainties associated with estimated emissions.
[b] Emission estimates under the current NESHAP, assuming current practice, are uncertain. Emission estimates are based on EPA enforcement personnel estimates of the level of compliance with the NESHAP notification requirements, rather than on the actual level of compliance with the removal and disposal requirements.

In addition to the proposed revisions discussed above, several editorial changes are proposed (but not discussed) that are intended to clarify the intent of the regulation as well as make it more understandable. The changes consist primarily of adding clarifying phrases or substituting terms for clarity and are based on comments from both enforcement agencies and industry.

The costs associated with the proposed amendments are expected to be small. The recordkeeping and reporting costs are included in the impacts of the reporting requirements. The benefits of the amendments cannot be precisely quantified, but the above assessment of the effectiveness of the current NESHAP at full compliance and at current practice gives a measure of the magnitude of the increase in benefits that could be achieved.

Spraying

The current NESHAP prohibits the use of materials that contain greater than 1 percent asbestos on a dry weight basis for spray-on application on buildings, structures, pipes, and conduits unless the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying. This requirement is amended by substituting percent by area for percent by weight as the expression for asbestos concentration as discussed under "Friable asbestos material" in the Definitions section of this preamble.

Roadways

Section 61.143, "Standard for roadways," is clarified by substituting "construct or maintain" for "surface." This revision will codify a determination already made by EPA.

The amendment will make it clear that unbound tailings are not allowed in a road base, based on a prior EPA applicability determination, unless the road is a temporary roadway on an area of asbestos ore deposits, i.e., an asbestos mine. Tailings are permitted in temporary roadways at asbestos mill sites if they are encapsulated with a resinous or bituminous binder. Periodic maintenance of the encapsulated road surface to prevent dust emissions will be required. Asbestos tailings are not permitted to be used in road construction unless they are encapsulated in asphalt concrete meeting Federal Highway Administration (FHWA) roadway construction specifications. Because of their aggregate characteristics which give them some value for use in road construction, tailings encapsulated in asphalt concrete will continue to be allowed. This change explicitly will permit the use of asbestos tailings which have been encapsulated, and which, because of the milling process, typically have a low asbestos content.

Definitions

"Adequately wetted" is changed to "Adequately wet" because in most places in the regulation, the verb "wet" is used. The definition clarifies that the owner or operator must wet asbestos to a sufficient degree to prevent any particulate emissions.

To be consistent with other revisions to the standard, the definition of "Asbestos material" was changed to "Asbestos-containing material" and expanded to include both friable material and nonfriable material that potentially can become a source of emissions.

The definition of "Asbestos-containing waste material" is modified to give additional examples of waste material that are covered by the regulation. The part of the definition pertaining to waste from demolition and renovation is modified to clarify that the standard applies to nonfriable material that can be broken, crumbled, pulverized, or reduced to powder by operations covered by the regulation.

The definition of "Commercial asbestos" is modified to clarify that it includes any material that contains asbestos and has value because of its asbestos content. This is consistent with EPA's previous applicability determination.

The definition of "Demolition" is modified to clarify that the intentional burning of load-supporting structures or the intentional burning of facilities is considered a demolition. This more clearly specifies that buildings that are intentionally burned, usually under the supervision of a fire department, to make way for new structures, for example, would have to comply with the provisions for demolition and renovation, thus avoiding occasional emissions from a previously unregulated source. Economic impacts of this amendment would be negligible because occurrences are so few.

The definition of "Emergency renovation operation" is modified to give more explicit criteria for what constitutes an emergency renovation.

The definition of "Fabricating" is clarified by stating that, for friction products, bonding and debonding are included.

The definition of "Facility" is modified by adding the terms "residential," "public," "ships," and "active and inactive disposal sites." Adding these terms serves to clarify the regulation to read as it is interpreted currently to include residential

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structures, publicly owned buildings, ships, and waste disposal sites.

The meaning of "Facility component" is clarified by defining it as any part of a facility, including equipment.

The current definition of "Friable asbestos material" contains a threshold of 1 percent for the amount of asbestos that must be present before friable material is subject to the demolition and renovation provisions. The intent of the 1 percent threshold was to distinguish between material that contained asbestos and material that did not contain asbestos within the limits of detection of the available analytical methods. The current definition also expresses the asbestos threshold as percent by weight. The proposed standard expresses asbestos content as percent by area to make the regulation consistent with preferred analytical methodology, which gives results as percent by area, and with current practice; it does not change the stringency of the standard.

The mass of asbestos present in a bulk sample cannot be determined directly. In the context of bulk sample analysis, mass is a derived property because it is obtained by counting and sizing asbestos particles under a microscope, assuming a geometric shape for the particles, calculating their volume, and multiplying by an assumed density. The mass of nonasbestos material present in a bulk sample would be obtained by the same procedure.

On the other hand, the area and type of asbestos present in a bulk sample can be determined directly through microscopic analysis. Appendix A, Subpart F, 40 CFR Part 763, contains the approved method of bulk sample analysis for asbestos—polarized light microscopy (PLM) and point counting and is incorporated by reference in the definition. In this method, the area of an analytical slide occupied by asbestos particles and the area occupied by matrix are both measured directly. The Agency is considering incorporation of this method explicitly in the final rule if it would be more convenient to use. Therefore, EPA is requesting comments on whether the method should be incorporated by reference as it is in this proposal, or whether the method should be stated explicitly in the rule.

The relationship between percent weight and percent area has been studied by EPA *(Draft Relationship Between Visual Estimates and Weight Percentage of ACM).* This study discusses ways to convert percent area measurements to percent weight equivalents, generally concluding that percent weight and percent area are equivalent for most matrices in which asbestos is found. Furthermore, using percent area will serve the same purpose as was intended initially, i.e., whether asbestos is present or not.

The cost and availability of methods for the identification and quantitation of asbestos vary greatly depending on the particular method. The TEM, for example, is relatively expensive with costs ranging from about $500 to $700 per sample analyzed. PLM costs, however, average about $25 to $50 per sample. Numerous laboratories are capable of performing PLM, while the number of laboratories with TEM capabilities for asbestos analysis are somewhat more limited.

An informal survey by EPA's Office of Research and Development (ORD) of analysts performing asbestos bulk sample analyses reveals that in practice they determine and report percent asbestos by area, not be weight. This is considered to be the norm rather than an exception.

The EPA also considered, but rejected, a revision to the definition of "Friable asbestos material" to include materials that can be crumbled, pulverized, or reduced to powder by the mechanical forces expected to act on the material. The intent of such a change would be to codify an interpretation already made by EPA. The interpretation states that, in effect, the demolition and renovation regulations apply to materials that are normally nonfriable (e.g., asbestos-cement sheet), which because of forces acting on the material during demolition or renovation and subsequent handling, transportation, storage or disposal operations, would result in asbestos emissions. However, as a result of numerous comments from government and industry stating that the existing definition of friable was well established and widely accepted, EPA has decided to retain the existing definition with the exception that "broken" is inserted ahead of "crumbled, pulverized, or reduced to powder." This is consistent with EPA's current interpretation and application of this definition. Throughout the regulation where the phrase "crumbled, pulverized, or reduced to powder" is used, the word "broken" has been added.

The standard will be revised where appropriate to regulate materials that are normally nonfriable but potentially can be broken, crumbled, pulverized, or reduced to powder as a result of the regulated operations. Such materials include, for example, A/C products and paper insulation. These materials must be removed from a facility prior to its demolition because they are likely to be broken up during demolition and inaccessible after demolition for segregation and separate disposal in a NESHAP landfill. To the extent that these materials can be removed without breaking or crumbling, they do not have to be wetted and sealed in leak-tight containers, although they are to be included in determining applicability and their quantity must be included in the notification. In addition, they must be disposed of in a NESHAP landfill. Nonfriable materials that are likely to remain nonfriable and, therefore, not be subject to the demolition and renovation provisions, include packings and gaskets, floor tile, asphalt roofing shingles, roofing felt, coatings, and sealants. However, even these nonfriable materials may be subject to regulation under certain situations. For example, the sanding of asbestos floor tiles that can produce asbestos emissions is considered a renovation and subject to the regulation. Severely weathered asphaltic materials may become brittle and, therefore, be subject to the regulation. Because handling even normally nonfriable materials can result in asbestos emissions under some conditions, case-by-case determinations of friability will still be required in many instances.

A definition of "Fugitive sources" is added to help clarify the modified provisions for mills, manufacturing, and fabricating.

A definition of "Glove bag" is added because the use of glove bags will be permitted in renovations when wetting is determined not to be feasible for safety reasons or because of the potential to damage equipment. However, EPA intends for glove bags to be used with wetting inside the glove bags.

The definition of "Inactive waste disposal site" in revised by deleting reference to vehicular traffic and stipulating that an inactive site is one at which asbestos-containing waste material has not been deposited within the past year.

"Installation" is defined as a building or group of buildings at a demolition or renovation site. This definition is added to clarify the existing applicability requirements for demolition or renovation. For purposes of determining the amount of asbestos to be stripped or removed, the amounts of asbestos in a group of buildings to be demolished or renovated are summed.

"Leak-tight" is defined to help clarify the intent of the demolition and renovation and waste disposal requirements as they pertain to the use of leak-tight containers, wrappings, and

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(in the case of demolition and renovation) the use of leak-tight chutes to convey waste from aboveground stripping and removal operations. Leak-tight implies that, in the course of operations covered by this regulation, the contents are sealed adequately to prevent any asbestos or asbestos-containing material, including contaminated water, from escaping. Although it is impractical to identify in advance what is considered leak-tight, the use of certain containers or seals may be considered unacceptable in many instances. For example, the use of flimsy twist ties or bags of less than 6-mil thickness would not constitute "leak-tight" under most conditions. A case-by-case determination will be required in many instances.

A definition of "Malfunction" is added to clarify conditions covered by the requirements for air pollution control devices in milling, manufacturing, and fabricating.

The definition of "Manufacturing" is revised to clarify that chlorine manufacturing is covered by the definition. Chlorine manufacturers use asbestos in the production of chlorine rather than processing asbestos into a final or intermediate product.

"Natural barrier" is defined to help clarify the intent of the waste disposal requirements and, specifically, that remoteness of a disposal site alone does not constitute a natural barrier.

A definition of "Nonscheduled operation" is added to help clarify the intent of the applicability provisions for renovation.

The definition of "Outside air" is clarified by specifying that outside air means air outside buildings and structures and includes air under bridges and open air ferry docks.

"Owner or operator of a demolition or renovation activity" is defined to help clarify responsibility for compliance. The definition of "owner or operator of a demolition or renovation activity" includes the owner of the facility being demolished or renovated. It also includes the current owner of the property on which the facility is situated, if the owner sells the facility to another party for demolition or renovation. In such circumstances, the property owner, while no longer holding title to the facility, causes the demolition or renovation to occur, and thereby owns, leases, operates, controls, or supervises the demolition or renovation operation. See, e.g., *U.S. v. Geppert Bros., Inc. et al.*, 638 F. Supp. 996 (E.D.Pa. 1986).

The definition of "Planned renovation operations" is revised to require knowledge that "some" friable asbestos material will be stripped or removed rather than knowledge of "the amount of" material to be stripped or removed.

"Remove" is clarified to include the taking out of "asbestos-covered facility components."

"Renovation" is clarified by specifying stripping and removal of asbestos as renovation activities. An additional change makes clear that wrecking or taking out load-supporting structural members is demolition.

The definition of "Roadways" is clarified by adding the term "public and private" so that it is clear that the regulation is applicable to roadways regardless of ownership.

The definition of "Strip" is clarified by adding "or facility components" at the end of the definition.

In order to facilitate enforcement of the visible emission limitations, the definition of "Visible emissions" is revised to mean any emissions coming from asbestos-containing material.

"Working days" is defined as Monday through Friday to help clarify the notification requirements for demolition and renovation.

Impacts of Reporting Requirements

The proposed amendments to the asbestos NESHAP will impose several reporting and recordkeeping requirements. Owners or operators of milling, manufacturing, and fabricating sources will be required to maintain records of monitoring and inspections and of waste shipments and will be required to submit quarterly reports of visible emission monitoring. Each owner or operator involved in a demolition or renovation operation will be required to maintain records of waste shipments. All generators of waste will also be required to submit semiannual reports summarizing their records of waste shipments. Owners or operators of active waste disposal sites will be required to maintain records of all asbestos waste shipments, document the arrival of improperly contained waste, maintain records of the location and quantity of asbestos in the landfill, make semiannual reports to the Administrator summarizing disposal activities, and record on the property deed the presence and location of asbestos. As is discussed in the rationale for the selection of the proposed amendments, the recordkeeping and reporting requirements will assist enforcement efforts.

The information collection provisions summarized above have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* Comments on these requirements should be submitted to the Office of Information and Regulatory Affairs, OMB, 726 Jackson Place, NW., Washington, DC 20503, marked "Attention: Desk Officer for EPA," as well as to EPA. The final rule will respond to any OMB or public comments on the information collection requirements.

An analysis of the burden associated with the proposed reporting and recordkeeping requirements has been made. During the first 3 years of this regulation, the annual burden of the reporting and recordkeeping requirements for asbestos mills; manufacturing, demolition, renovation, spraying, and fabricating operations; and active and inactive waste disposal sites is estimated to be about 308,000 person-hours.

Regulatory Flexibility Act

The RFA (5 U.S.C. 601 *et seq.*) requires EPA to consider the potential impacts of proposed standards on small "entities." If a preliminary analysis indicates that a proposed regulation would have a significant adverse economic impact on a substantial number (i.e., 20 percent or more) of small entities, then a regulatory flexibility analysis must be prepared. Current RFA guidelines indicate that an economic impact should be considered significantly adverse if it meets one of the following criteria: (1) Annual compliance costs increase production costs by more than 5 percent; (2) compliance costs as a percentage of sales for small entities are at least 10 percent more than compliance costs as a percentage of sales for large entities; (3) capital costs of compliance represent a "significant" portion of capital available to small entities, considering internal cash flow plus external financial capabilities; and (4) regulatory requirements are likely to result in closures of small entities. Effects of the proposed standard on small firms in the milling, manufacturing, and fabricating industry cannot be estimated because of lack of data on the existing distribution of plant sizes and on plant ownership by size of firm. It is likely that differences in unit compliance costs between large and small entities (higher unit costs for smaller firms) are not large enough to create significant interplant cost differences. In the demolition services industry, the increases in demolition costs and the nature of the industry itself are such that no significantly disproportionate impacts will be experienced by smaller entities. In the renovation services industry, the effects on smaller firms are likely to be quite small because cost increases are slight.

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Thus, a regulatory flexibility analysis is not required.

Public Hearing

A public hearing will be held, if requested, to discuss the proposed amendments to the asbestos NESHAP, in accordance with sections 112(b)(1)(B) and 307(d)(5) of the CAA and the Administrative Procedure Act. Persons wishing to make oral presentations should contact EPA at the address given in the Addresses section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement before, during, or within 30 days after the hearing. Written statements should be addressed to the Central Docket Section address given in the Addresses section of this preamble and should refer to Docket No. A–88–28.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at EPA's Central Docket Section in Washington, DC (see Addresses section of this preamble).

Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of the proposed amendments. The principal purposes of the docket are: (1) To allow interested parties to identify and locate documents so that they can participate effectively in the rulemaking process and (2) to serve as the record in case of judicial review (except for interagency review materials (Section 307(d)(7)(A)).

Miscellaneous

When the amended asbestos NESHAP is reviewed again, the review will include an assessment of such factors as the need for integration with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and reporting requirements. The reporting requirements in this standard will be reviewed as required under the EPA sunset policy for reporting requirements in regulations.

In accordance with section 117 of the CAA, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. In addition, numerous meetings were held with industry representatives and trade associations during development of the proposed amendments. The Administrator will welcome comments within the public comment period, on all aspects of the proposed regulation, including economic and technological issues, and on the proposed test method.

Comments are specifically invited on the following aspects of the proposed amendments:

- Expressing asbestos content of materials as percent by area;
- Requiring weekly inspections of air cleaning devices at mills, and manufacturing and fabricating operations, and keeping records of same;
- Requiring notification of demolitions where no asbestos is involved;
- Training of asbestos removal contractors;
- Comments by NADC to improve compliance.

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is not major because it would result in none of the adverse economic impacts set forth in section 1 of the Executive Order as grounds for finding a regulation to be major. The industry-wide annualized costs in the fifth year after the standards would go into effect would be approximately $9.3 million, less than the $100 million established as the first criterion for a major regulation in the Order. The estimated price increases on asbestos products would not be considered "major increases in costs or prices" specified as the second criterion in the Order. The analysis of the proposed amendments' effect on the asbestos industry did not indicate any significant adverse effects on competition, investment, productivity, employment, innovation, or the ability of U.S. firms to compete with foreign firms (the third criterion of the Order).

This regulation was submitted to OMB for review as required by Executive Order 12291. Any written comments from OMB to EPA and any EPA responses to those comments will be included in Docket No. A–88–28. This docket is available for public inspection at EPA's Central Docket Section, which is listed under the Addresses section of this preamble.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule, if promulgated, will not have a significant economic impact on a substantial number of small entities.

List of Subjects in 40 CFR Parts 61 and 763

Asbestos, Beryllium, Hazardous substances, Mercury, Reporting and recordkeeping requirements, Vinyl chloride, Blast furnaces, Steel mills.

Date: December 22, 1988.

Lee M. Thomas,

Administrator.

It is proposed that 40 CFR Chapter I be amended as follows:

PART 61—[AMENDED]

I. In Part 61:

1. The authority citation for 40 CFR Part 61, Subpart M is revised to read as follows:

Authority: Secs. 101, 112, 114, 116, 301 of the Clean Air Act as amended (42 U.S.C. 7401, 7412, 7414, 7416, 7601); Sec. 203 of the Toxic Substances Control Act, 15 U.S.C. 2643.

2. The table of sections is revised in its entirety to read as follows:

Subpart M—National Emission Standard for Asbestos

3. Section 61.140 is revised to read as follows:

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155.

4. In § 61.141, the following definitions are revised: "Asbestos-containing waste materials," "Commercial asbestos," "Demolition," "Emergency renovation operation," "Fabricating," "Facility," "Facility component," "Friable asbestos material," "Inactive waste disposal site," "Manufacturing," "Natural barrier," "Outside air," "Particulate asbestos material," "Planned renovation

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operation," "Remove," "Renovation," "Roadways," "Strip," and "Visible emissions." The following definitions are added: "Adequately wet," "Asbestos-containing material," "EPA identification number," "Fugitive sources," "Glove bag," "Installation," "Leak-tight," "Malfunction," "Natural barrier," "Nonscheduled renovation operation," "Owner or operator," "Waste generator," "Waste shipment record," "Working days." The definitions, "Adequately wetted" and "Asbestos material," are removed.

§ 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in Subpart A of this part.

* * * * *

"Adequately wet" means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

* * * * *

"Asbestos-containing material" means friable asbestos material, and nonfriable asbestos material that potentially can be broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this subpart.

"Asbestos-containing waste materials" means any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes asbestos mill tailings, asbestos waste including filters from control devices, friable asbestos waste material, and bags or containers that previously contained commercial asbestos. As applied to demolition and renovation operations, this term also includes nonfriable asbestos waste that can be broken, crumbled, pulverized, or reduced to powder in the course of demolition and renovation operations covered by this subpart, and materials contaminated with asbestos including equipment and clothing.

* * * * *

"Commercial asbestos" means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

"Demolition" means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

"Emergency renovation operation" means a renovation operation that was not planned but results from a sudden, unexpected event that results in unsafe conditions. This term includes operations necessitated by nonroutine failures of equipment.

"EPA identification number" means the number assigned by EPA to each waste generator.

"Fabricating" means any processing of a manufactured product that contains commercial asbestos, with the exception of processing, or field fabricating, at temporary sites for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding and debonding.

"Facility" means any institutional, commercial, public, industrial, or residential structure, installation, or building (residential buildings having four or fewer dwelling units are excluded); any ship; and any active and inactive waste disposal site.

"Facility component" means any part of a facility including equipment.

"Friable asbestos material" means any material containing more than 1 percent asbestos by area as determined by the method specified in Appendix A, Subpart F, 40 CFR Part 763 that, when dry, can be broken, crumbled, pulverized, or reduced to powder by hand pressure.

"Fugitive sources" means any source not controlled by an air pollution control device.

"Glove bag" means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA) final rule on occupational exposure to asbestos (Appendix G to 29 CFR 1926.58).

"Inactive waste disposal site" means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

"Installation" means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of a single entity (i.e., one owner or one operator).

"Leak-tight" means that solids or liquids cannot escape or spill out. It also means dust-tight.

"Malfunction" means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operations, or any other preventable equipment breakdown.

"Manufacturing" means the combining of commercial asbestos—or, in the case of woven friction products, the combining of textiles containing commercial asbestos—with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

"Natural barrier" means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

"Nonscheduled renovation operation" means a renovation operation that is not planned but is caused by the routine failure of equipment.

"Owner or operator of a demolition or renovation activity" means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

"Outside air" means the air outside buildings and structures, including, but not limited to, the air under a bridge or in an open air ferry dock.

"Particulate asbestos material" means finely divided particles of asbestos or material containing asbestos.

"Planned renovation operations" means a renovation operation, or a number of such operations, in which some friable asbestos material will be removed or stripped within a given period of time and which can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

"Remove" means to take out asbestos-containing materials or asbestos-covered facility components from any facility.

"Renovation" means altering in any way one or more facility components including the stripping or removal of asbestos-containing material from facility components. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

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"Roadways" means surfaces on which motor vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

"Strip" means to take off asbestos-containing materials from any part of a facility or facility components.

* * * * *

"Visible emissions" means any emissions, which are visually detectable without the aid of instruments, coming from asbestos-containing material. This does not include condensed uncombined water vapor.

"Waste generator" means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

"Waste shipment record" means the shipping document, originated and signed by the generator, used to substantiate the disposition of asbestos-containing waste material.

"Working days" means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

5. Section 61.142 is revised to read as follows:

§ 61.142 Standard for asbestos mills.

(a) Each owner or operator of an asbestos mill shall either discharge no visible emissions to the outside air from that asbestos mill, including fugitive sources, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(b) Each owner or operator of an asbestos mill shall meet the following requirements:

(1) Monitor each potential source of asbestos emissions from any part of the mill facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during operation. The monitoring period shall be of at least 15 seconds duration per source of emissions.

(2) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunction including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator and revise as necessary, a written maintenance plan to include at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(3) Maintain records of the results of visible emissions monitoring and control device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of bags, including presence of tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of bags.

(v) Brief description of corrective actions taken including date and time.

(vi) Daily hours of operation for each control device.

(4) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(5) Retain a copy of all monitoring and inspection records for at least 2 years.

(6) Submit quarterly a copy of the visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

6. Section 61.143 is revised to read as follows:

§ 61.143 Standard for roadways.

No person may construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings,

(a) It is a temporary roadway on an area of asbestos ore deposits (asbestos mine); or

(b) It is a temporary roadway at an asbestos mill site and is encapsulated with a resinous or bituminous binder. The encapsulated road surface must be maintained at a minimum frequency of once per year to prevent dust emissions; or

(c) It is encapsulated in asphalt concrete meeting the specifications contained in Section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP–85, 1985, or their equivalent.

7. In § 61.144, paragraph (a)(9) and paragraphs (b) (1) and (2) are revised and paragraphs (b)(3) through (b)(8) are added to read as follows:

§ 61.144 Standard for manufacturing.

(a) * * *

(9) The manufacture of chlorine utilizing the asbestos diaphragm technology.

* * * * *

(b) * * *

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the manufacturing facility including air cleaning devices, process equipment, and buildings housing material processing and handling equipment, at least once each day during daylight hours, for visible emissions to the outside air during operation. The monitoring period shall be of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of bags, including presence of tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of bags.

(v) Brief description of corrective actions taken including date and time.

(vi) Daily hours of operation for each control device.

(6) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit quarterly a copy of the visible emission monitoring records to

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the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

§§ 61.146 and 61.147 [Removed]

8. Sections 61.146 and 61.147 are removed, and § 61.145 is revised to read as follows:

§§ 61.145 Standard for demolition and renovation.

(a) *Applicability.* The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity including the removal of asbestos-containing material as follows:

(1) If the amount of asbestos-containing material in a facility being demolished is at least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components or a total of at least one cubic meter (35 cubic feet) on or off all facility components in a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section.

(2) If in a facility being demolished, the amount of asbestos-containing material is less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components and if the total amount present in or off all facility components in a facility being demolished is less than one cubic meter (35 cubic feet) or there is no asbestos, only the notification requirements of paragraphs (b) (1), (2), (3) (i) and (iv), and (4) (i) through (vi) and (4) (viii) and (xv) of this section apply.

(3) If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except (b)(4)(vii)), (b)(5), and (c) (4), (5), (6), (7), (8), and (9) of this section apply.

(4) If at least 80 linear meters (260 linear feet) of asbestos-containing materials on pipes or at least 15 square meters (160 square feet) of asbestos-containing materials on other facility components or a total of at least one cubic meter (35 cubic feet) on or off all facility components are stripped, removed, or otherwise disturbed from a facility being renovated including any individual nonscheduled renovation operation, all the requirements of paragraphs (b) and (c) of this section apply.

(i) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the additive amount of asbestos-containing materials to be removed or stripped from one or more facilities during a calendar year of January 1 through December 31.

(ii) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the amount of asbestos-containing materials to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) For the purpose of determining applicability, do not include materials that cannot become friable, such as packings, gaskets, asphalt roofing, and vinyl floor tile that are in good condition. Owners or operators of demolition and renovation operations are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(b) *Notification requirements.* Each owner or operator of a demolition or renovation activity to which this section applies shall:

(1) Provide the Administrator with written notice of intention to demolish or renovate. Update notice, as necessary, including when the amount of asbestos affected changes.

(2) Send the notice by certified mail, return receipt requested, or hand deliver the written notice.

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or other activities such as site preparation which would disturb any asbestos material in a demolition or renovation begin, if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(i) and (a)(4)(ii)), of this section. If the operation is described in paragraph (a)(2) of this section, notification is required 10 working days before demolition begins.

(ii) For renovations described in paragraph (a)(4)(i) of this section, send by certified mail, return receipt requested and postmarked or hand deliver notice 10 working days before the end of the calendar year preceding the year for which notice is being given.

(iii) As early as possible before, but not later than the following working day after asbesto stripping or removal work in a renovation begins, if the operation is described in paragraph (a)(4)(ii) of this section or as early as possible before or by the following working day if the operation is a demolition described in paragraph (a)(3) of this section.

(iv) If asbestos stripping or removal work in demolition or renovation operations, described in paragraphs (a)(1) and (4) (except (a)(4)(i) and (a)(4)(ii)) of this section, will begin on a date other than the one contained in the notice, written notice of the new start date must be sent by certified mail, return receipt requested and postmarked at least 5 working days or received at least 3 working days before asbestos stripping or removal work in a demolition or renovation begins and postmarked at least 5 working days or received at least 3 working days before the original start date. For demolitions covered by paragraph (a)(2) of this section, written notice of the new start date must be sent by certified mail, return receipt requested and postmarked at least 5 working days or received at least 3 working days prior to commencement of demolition. In no event shall an operation covered by this provision begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) Name, address, and telephone number of owner and operator.

(ii) Type of operation: Demolition or renovation.

(iii) Description of the facility including the size (square meters) (square feet) and number of floors), age, and present or prior use of the facility.

(iv) Procedure employed to detect the presence of asbestos-containing materials.

(v) Estimate of the approximate amount of asbestos-containing material, including nonfriable asbestos material that will not be broken, crumbled, pulverized, or reduce to powder in the course of operations regulated by this section, to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, and volume on both in cubic meters (cubic feet). Provide separate estimates of the amounts of friable asbestos-containing material; the amount of nonfriable asbestos-containing material that has the potential to be broken, crumbled, pulverized, or reduced to powder; and the amount of nonfriable asbestos-containing material that will not be broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this section.

(vi) Location and address of the facility being demolished or renovated.

(vii) Scheduled starting and completion dates of asbestos removal work in a demolition or renovation; planned renovation operations involving

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individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(i) of this section.

(viii) Scheduled starting and completion dates of demolition or renovation.

(ix) Description of planned demolition or renovation work to be performed and method(s) to be employed including demolition or renovation techniques to be used and description of affected facility components.

(x) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste handling emission control procedures and the procedures to prevent nonfirable material from being broken, crumbled, pulverized, or reduced to powder in course of operations regulated by this section.

(xi) Name and location of the waste disposal site where the asbestos containing waste material, including nonfriable asbestos that has the potential to be broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this section will be deposited.

(xii) A certification that only an owner or operator of a demolition or renovation activity trained as required by paragraph (c)(8) of this section will supervise in the stripping and removal described by this notification.

(xiii) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin.

(xiv) For emergency renovations described in paragraph (a)(4)(ii) of this section, the date and hour that the emergency occurred, a description of the sudden unexpected event, and an explanation of how the event has caused unsafe conditions.

(xv) Description of procedures to be followed in the event that unexpected asbestos is found or previously nonfriable asbestos material becomes broken, crumbled, pulverized, or reduced to powder.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similar to that shown in Figure 3.

(c) *Procedures for asbestos emission control.* Each owner or operator of a demolition or renovation activity to whom this section applies shall comply with the following procedures:

(1) Remove asbestos-containing materials from a facility being demolished or renovated before any activities that would disturb the materials or preclude access to the materials for subsequent removal. However, asbestos-containing materials need not be removed before demolition if:

(i) They are on a facility component that is encased in concrete or other similarly hard material and are adequately wetted whenever exposed during demolition; or

(ii) They were not accessible for testing and were not discovered until after demolition began and, as a result, cannot be safely removed. If not removed for safety reasons, the exposed asbestos-containing material and any asbestos-contaminated debris must be adequately wetted.

(iii) They are materials that cannot become friable during demolition or renovation, such as, packing, gaskets, asphalt roofing, and vinyl floor tile in good condition.

(2) When a facility component that contains asbestos or that is covered or coated with asbestos-containing materials is being taken out of the facility as units or in sections:

(i) Adequately wet any asbestos-containing materials exposed during cutting or disjoining operations; and

(ii) Carefully lower the units or sections to ground level not dropping, throwing, sliding or otherwise damaging them.

(3) When asbestos-containing material is stripped from facility components in a facility, adequately wet the asbestos-containing material during the stripping operation.

(i) In renovation operations, wetting is not required if the owner or operator has obtained written approval from the Administrator by:

(A) Asking the administrator to determine whether wetting to comply with this paragraph would unavoidably damage equipment or present a safety hazard, and supplying the Administrator with adequate information to make this determination before beginning to strip asbestos-containing material; and

(B) Using one of the following when the Administrator does determine that equipment damage would be unavoidable or that a safety hazard would exist:

(*1*) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements of § 61.152.

(*2*) A glove-bag system designed and operated to capture the particulate asbestos material produced by the stripping of the asbestos materials.

(*3*) Leak-tight wrapping to contain all asbestos-containing material prior to dismantlement.

(ii) In renovation operations where wetting or the methods allowed in paragraph (c)(3)(i) of this section cannot be used, other methods may be used after obtaining written approval from the Administrator upon determination that they are equivalent to wetting or the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and available for inspection.

(4) After a facility component covered or coated with asbestos-containing material has been taken out of the facility as units or in sections, it must be stripped or contained in leak-tight wrapping for disposal, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet asbestos-containing materials during stripping; or

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams, the asbestos is not required to be stripped if the following requirements are met:

(i) They can be removed, transported, stored, and reused without disturbing or damaging the asbestos.

(ii) They are encased in a leak-tight wrapping.

(iii) It is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all asbestos-containing materials including those that have been removed or stripped:

(i) Adequately wet the materials to ensure that they remain wet until they are collected and contained or treated in preparation for disposal in accordance with § 61.150; and

(ii) Carefully lower the materials to the ground or a lower floor, not dropping, throwing, sliding, or otherwise damaging them; and

(iii) Transport the materials to the ground via leak-tight chutes or containers if they have been removed or

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stripped more than 50 feet above ground level and were not removed as units or in sections.

(iv) Asbestos-containing materials contained in leak-tight wrapping that have been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(*3*) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0°C (32°F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) of this section and the wetting provisions of paragraph (c)(e) of this section.

(ii) The owner or operator must remove facility components coated or covered with asbestos-containing materials as units or in sections to the maximum extent possible.

(iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature at the beginning, middle, and end of each work day and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the records of temperature for at least 2 years.

(8) All asbestos-containing material shall be stripped, removed, and otherwise handled by an owner or operator of a demolition or renovation activity with at least one on-site representative, such as a foreman or management level person, trained in the provisions of this regulation and the means of complying with them. The required training shall include as a minimum: applicability; notifications; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been accomplished shall be made available for inspection by the Administrator during normal business hours at the demolition or renovation site. This requirement shall become effective one year after promulgation of this regulation. This training does not replace the training requirements of the Office of Pesticides and Toxic Substances nor the training requirements of OSHA in 29 CFR 1926.58.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion of the facility that contains asbestos-containing materials during the wrecking operation.

§ 61.148 [Redesignated as § 61.146 and Amended]

9. Section 61.148 is redesignated as § 61.146 and is amended by revising paragraphs (a), the introductory text of (b), paragraph (b)(2), and paragraph (d) to read as follows:

§ 61.146 Standard for spraying.

* * * * *

(a) Use materials that contain 1 percent asbestos or less by area for spray-on application on buildings, structures, pipes, and conduits, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos by area on equipment and machinery, except as provided in paragraph (c) of this section:

* * * * *

(2) Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

* * * * *

(d) Owners or operators of sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

§ 61.149 [Redesignated as § 61.147 and Amended]

10. Section 61.149 is redesignated as § 61.147, paragraphs (b) (1) and (2) are revised, and paragraphs (b)(3) through (b)(8) are added to read as follows:

§ 61.147 Standard for fabricating.

* * * * *

(b) * * *

(1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the fabricating facility including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during operation. The monitoring period shall be of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions including, to the maximum extent possible, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of bags, including presence of tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of bag.

(v) Brief description of corrective actions taken including date and time.

(vi) Daily hours of operation for each control device.

(6) Furnish upon request and make available during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit quarterly a copy of the visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

§ 61.150 [Redesignated as § 61.148 and Revised]

11. Section 61.150 is redesignated as § 61.148 and revised to read as follows:

§ 61.148 Standard for insulating materials.

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under § 61.146.

§ 61.151 [Redesignated as § 61.149 and Amended]

12. Section 61.151 is redesignated as § 61.149 and is amended by revising paragraphs (a), (b), (c)(1)(ii) and (iii), and (c)(2), and adding new paragraphs (d) through (f) to read as follows:

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§ 61.149 Standard for waste disposal for asbestos mills.

* * * * *

(a) Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of § 61.154; and

(b) Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.150(a) or paragraph (c) of this section; and

(c) * * *

(1) * * *

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less then −9.5 °C (15 °F), as determined by an appropriate measurement method with an accuracy of ±1°C (±2°F). During periods when wetting operations are suspended, temperature must be recorded at least at hourly intervals and records must be retained for at least 2 years in a form suitable for inspection.

(2) Use an alternative treatment that has received prior approval by the Administrator. To obtain approval for an alternative treatment, a written request must be submitted to the Administrator. The Administrator will use the following criteria to evaluate the alternative treatment method:

(i) The ability of the method to control asbestos emissions to levels equivalent to those achieved by currently required methods.

(ii) The suitability of the method for the intended application.

(iii) The likelihood that the method would contravene other regulations.

(iv) The likelihood that the method would result in increased water pollution, land pollution, or occupational hazards.

(d) If waste is transported by vehicle to a disposal site:

(1) Placard vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The placards must:

(i) Be posted in such a manner and location that a person can easily read the legend.

(ii) Conform to the requirements for 51 cm × 36 cm (20" × 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

LEGEND
ASBESTOS DUST HAZARD
Do Not Remain In Area Unless
Your Work Requires It
Breathing Asbestos Dust is Hazardous
to Your Health
Notation

2.5 cm (1 inch) Sans Serif, Gothic or Block

1.9 cm (¾ inch) Sans Serif, Gothic or Block

14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Provide a copy of the waste shipment record described in paragraph (e)(1) of this section, to the disposal site owner or operator at the same time as the asbestos-containing waste material arrives at the disposal site.

(e) For all asbestos-containing waste material transported off site:

(1) Maintain records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, EPA identification number, address, and telephone number of the waste generator.

(ii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iii) The name and telephone number of the disposal site operator.

(iv) The name and location of the disposal site.

(v) The date transported.

(vi) The names, address, and telephone number of the transporter(s).

(2) Retain a copy of asbestos waste shipment record for at least 2 years.

(3) Maintain records of all waste shipments for which a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received within 35 days of the date the waste was accepted by the initial transporter.

(4) Prepare and submit a single copy of a semiannual report to the Administrator and include the following information concerning off-site waste disposal activities during each consecutive 6-month period:

(i) The name, EPA identification number, address, and location of the waste generator.

(ii) The calendar period covered by the report.

(iii) Using a format similar to that shown in Figure 5, a list of all off-site waste shipments including the date shipped, the date received by the disposal site, the quantity of asbestos-containing waste in each shipment (both the quantity that is friable and that which is nonfriable), the name of the disposal facility to which waste was shipped, the name of the transporter, and an indication of whether 35 days or more have elapsed since the waste was shipped without having received a copy of the waste shipment record signed and dated by the disposal site owner or operator.

(f) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

§ 61.152 [Redesignated as § 61.150 and Revised]

13. Section 61.152 is redesignated as § 61.150 and is revised to read as follows:

§ 61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

Each owner or operator of any source covered under the provisions of §§ 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, transporting, or deposition of any asbestos-containing waste material generated by the source, or use one of the treatments specified in paragraphs (a) (1) through (4) of this section. Paragraphs (a) (1), (2), and (4) of this section do not apply to nonfriable materials.

(1) Adequately wet asbestos-containing waste material as follows:

(i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section as follows:

CAUTION
Contains Asbestos

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Avoid Opening or
Breaking Container
Breathing Asbestos is Hazardous
to Your Health

Alternatively, use warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). The labels shall be printed in letters of sufficient size and contrast as to be readily visible and legible.

(v) Label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(2) Process asbestos-containing waste material into nonfriable forms:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes; and

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Broken areas of nonfriable asbestos material that potentially can be further broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this section must be either adequately wetted using a wetting agent or encapsulated. If encapsulated, these materials need not be sealed in leak-tight containers or wrapping. If adequately wetted, these materials must be sealed in leak-tight containers or wrapping.

(4) For facilities demolished where the asbestos-containing material is not removed prior to demolition according to § 61.145 (c)(1) (i) and (ii), or for facilities demolished according to § 61.145(c)(9), adequately wet asbestos-containing waste after demolition and while loading for transport to disposal site.

(5) Use an alternative treatment that has received prior approval by the Administrator according to the procedure described in § 61.149(c)(2).

(b) All asbestos-containing waste material from manufacturing and fabricating and, for demolition and renovation, all friable and nonfriable asbestos-containing waste material that potentially can be broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this section must be deposited as soon as is practical at—

(1) A waste disposal site operated in accordance with the provisions of § 61.154, or

(2) A site that converts asbestos-containing material into nonasbestos (asbestos-free) material according to the provisions of § 61.155.

(3) The requirements of paragraph (b) of this section do not apply to nonfriable materials from demolition and renovation operations that normally will not be broken, crumbled, pulverized, or reduced to powder, such as, packing, gaskets, asphalt roofing, and vinyl floor tile in good condition.

(c) When transporting asbestos-containing waste material to a storage or disposal site:

(1) Placard vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The placards must conform to the requirements of § 61.149(d)(1) (i), (ii), and, (iii).

(2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material arrives at the disposal site.

(d) For all asbestos-containing waste material including nonfriable material that potentially can be broken, crumbled, pulverized, or reduced to powder in the course of operations regulated by this section:

(1) Maintain records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, EPA identification number, address, and telephone number of the waste generator.

(ii) The quantity in cubic meters (cubic yards) that is friable and the quantity that is nonfriable.

(iii) The name and telephone number of the disposal site operator.

(iv) The name and location of the disposal site.

(v) The date transported.

(vi) The name of the transporter(s).

(2) Retain a copy of asbestos waste shipment records for at least two years.

(3) Maintain records of all waste shipments for which a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received within 35 days of the date the waste was accepted by the initial transporter.

(4) Prepare and submit a single copy of a semiannual report to the Administrator and include the following information concerning waste storage and disposal activities during each consecutive 6-month period:

(i) The name, EPA identification number, address, and location of the waste generator.

(ii) The calendar period covered by the report.

(iii) Using a format similar to that shown in Figure 5, a list of all waste shipments including the date shipped, the date received by the disposal site, the quantity of asbestos-containing waste in each shipment (both the quantity that is friable and that which is nonfriable), the name of the disposal facility to which waste was shipped, the name of the transporter, and an indication of whether 35 days or more have elapsed since the waste was shipped without having received a copy of the waste shipment record signed and dated by the storage or disposal site owner or operator.

(e) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

§ 61.153 [Redesignated as § 61.151 and Amended]

14. Section 61.153 is redesignated as § 61.151 and is amended by revising the introductory text, paragraphs (a)(2), (a)(4), and (b)(3), and adding paragraphs (d) and (e) to read as follows:

§ 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under § 61.142, 61.144, or 61.147 and received desposits of asbestos-containing waste material generated by the sources, shall:

(a) * * *

(1) * * *

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or

* * * * *

(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a)(1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior

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approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, waste oil is not considered a dust suppression agent.

(b) * * *

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately access by the general public.

* * * * *

(d) Obtain the Administrator's approval in writing prior to disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. Provide the following information to the Administrator:

(1) Reason for disturbing the waste.

(2) Procedures to be used to control emissions.

(3) Location of the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property—or on some other instrument which is normally examined during a title search—that will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plat and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in § 61.154(g) have been filed with the Administrator; and

(3) The site is subject to 40 CFR Part 61 Subpart M.

§ 61.154 [Redesignated as § 61.152 and Amended]

15. Section 61.154 is redesignated as § 61.152 and amended by removing paragraph (a)(1)(i), redesignating paragraphs (a)(1)(ii)–(iv) as paragraphs (a)(1)(i)–(iii), redesignating paragraph (b)(2) as paragraph (b)(3), revising the introductory text of paragraph (a) and paragraphs (b)(1) and (b)(3), and adding paragraphs (a)(3) and (b)(2) to read as follows:

§ 61.152 Air cleaning.

(a) The owner or operator who uses air-cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(*1*), 61.145(c)(4)(ii), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(ii), 61.150(a)(1)(ii), 61.150(a)(2)(ii), and 61.155(e) shall:

* * * * *

(3) For fabric filter collection devices installed after (the date of proposal of this NESHAP revision), provide for easy inspection for faulty bags.

(b) * * *

(1) After (the date of proposal of this NESHAP revision), if the use of fabric creates a fire or explosion hazard, or the Administrator determines that a fabric filter is not feasible, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure).

(2) Use a HEPA filter that is at least 99.97 percent efficient as determined by ASTM method D-2986-71.

(3) The Administrator may authorize the use of filtering equipment other than described in paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

§ 61.155 [Redesignated as § 61.153 and Amended]

16. Section 61.155 is redesignated as § 61.153 and amended by redesignating paragraphs (a)(3) and (a)(4) as paragraphs (a)(4) and (a)(5), respectively, revising the introductory text of paragraphs (a), (a)(4), and (a)(5) and paragraphs (a)(2), (a)(4)(ii) and (iii), and (b), and adding paragraph (a)(3) to read as follows:

§ 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of roadways, demolition and renovation, spraying and insulating materials), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator within 90 days of the effective date. In the case of a new source which did not have an initial startup date preceding the effective date, the information shall be provided within 90 days of the initial startup date. Any owner or operator of an existing source who provided this information prior to the effective date is not required to resubmit it. Any changes in the information provided by any existing source shall be provided to the Administrator within 30 days after the change.

* * * * *

(2) If a fabric filter device is used to control emissions,

(i) The airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$) if the fabric filter device uses a woven fabric, and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$).

(3) If a HEPA filter is used to control emissions, the efficiency as determined by ASTM method D-2986-71.

(4) For sources subject to §§ 61.149 and 61.150:

* * * * *

(ii) The average volume of asbestos-containing waste material disposed of, measured in cubic meters (cubic yards); and

(iii) The emission control methods used in all stages of waste disposal; and

* * * * *

(5) For sources subject to § 61.151:

* * * * *

(b) The information required by paragraph (a) of this section must accompany the information required by § 61.10. Roadways, demolition and renovation, spraying and insulating materials are exempted from the requirements of § 61.10(a). The information described in this section must be reported using the format of Appendix A of this part as a guide.

§ 61.156 [Redesignated as § 61.154 and Amended]

17. Section 61.156 is redesignated as § 61.154 and amended by revising the introductory text of § 61.154, paragraphs (c) and (d), and adding paragraphs (e) through (k) to read as follows:

§ 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material under §§ 61.149 and 61.150 shall meet the requirements of this section:

* * * * *

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion. Such agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of

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this paragraph, waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, use an alternative control method for emissions that has received prior approval by the Administrator according to the procedures described in § 61.149(c)(2).

(e) For all asbestos-containing waste material received, the owner or operator shall:

(1) Maintain records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, EPA identification number, address, and telephone number of the waste generator.

(ii) The name of the transporter.

(iii) the quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers.

(v) The date of receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the generator.

(3) Retain a copy of the records required by this paragraph for at least two years.

(4) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report to the Administrator, describing the discrepancy and attempts to reconcile it and submit a copy of the waste shipment record along with it.

(f) The owner or operator of a disposal site shall prepare and submit a single copy of a semiannual report to the Administrator and include the following information concerning activities during each consecutive 6-month period.

(1) The name, address, and location of the disposal site.

(2) The calendar period covered by the report.

(3) The method of disposal.

(4) Using a format similar to that shown in Figure 5, a list of all asbestos-containing waste shipments including, the date received, the name and EPA identification number of the generator, the date shipped from the generator, the quantity of asbestos-containing waste in each shipment (both the quantity that is friable and that which is nonfriable), the name of the storage site and transporter, and the date that a copy of the waste shipment record was sent back to the generator and storage site.

(g) Maintain until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

(h) Upon closure, comply with all the provisions of § 61.151.

(i) Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

(j) Furnish upon request and make available during normal business hours for inspection by the Administrator all records required under this section.

(k) Obtain the Administrator's approval in writing prior to disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. Provide the following information to the Administrator:

(1) Reason for disturbing the waste.

(2) Procedures to be used to control emissions.

(3) Location of the temporary storage and final disposal site.

18. Section 61.155 is added to Subpart M to read as follows:

§ 61.155 Standard for operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.

Each owner or operator of an operation that converts asbestos-containing waste material into nonasbestos (asbestos-free) material shall meet the requirements of this section.

(a) Obtain the written approval of the Administrator to construct. To obtain approval, provide the Administrator with the following information:

(1) Application to construct pursuant to § 61.07.

(2) In addition to the requirements of § 61.07(b)(3), supply the following process information to the Administrator:

(i) Description of waste feed handling and temporary storage.

(ii) Description of process operating conditions.

(iii) Description of end product handling and temporary storage.

(3) Performance test protocol, including provisions for obtaining information required under paragraph (b) of this section.

(4) The Administrator may require that a demonstration of the process be performed prior to approval of the application to construct.

(b) Conduct a start-up performance test. Test results shall include:

(1) A detailed description of the types and quantities of nonasbestos material and asbestos-containing wastes processed, e.g., asbestos cement products, friable asbestos insulation, plaster, wood, plastic, wire, etc. Test feed is to include the full range of materials that will be encountered in actual operation of the process.

(2) Results of analyses, using polarized light microscopy, that document the asbestos content of the wastes processed.

(3) Results of analyses, using transmission electron microscopy, that document that the output materials are free of asbestos. Samples for analysis are to be collected as 8-hour composite samples (one 200 gm sample per hour), beginning with the initial introduction of asbestos-containing waste material and continuing until end of performance test.

(4) A description of operating parameters, such as temperature and residence time, defining the full range over which the process is expected to operate to produce nonasbestos (asbestos-free) materials. Specify the limits for each operating parameter within which the process will produce nonasbestos (asbestos-free) materials.

(5) The length of the test.

(c) During the initial 90 days of operation,

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Collect and analyze samples, taken as 10-day composite samples (one 200 gm sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period all output materials must be stored onsite until analysis shows the material to be asbestos-free or disposed of as asbestos-containing waste material according to § 61.150.

(d) After the initial 90 days of operation,

(1) Continuously monitor and record the operating parameters identified during start-up performance testing and any subsequent performance testing. Any product produced during a period of deviation from the range of operating conditions established to ensure the production of nonasbestos (asbestos-free) output materials shall be:

(i) Disposed of as asbestos-containing waste material according to § 61.150, or

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(ii) Recycled as waste feed during process operation within the established range of operating conditions, or

(iii) Stored temporarily onsite until analyzed for asbestos content. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled.

(2) Collect and analyze monthly composite samples (one 200 gm sample collected every 8 hours of operation) of the output material. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos.

(e) Discharge no visible emissions to the outside air from any part of the operation or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records and include the following information:

(1) Results of start-up performance testing and any subsequent performance testing including operating parameters, feed characteristics, and analyses of output materials.

(2) Results of the composite analyses required during the initial 90 days of operation under § 61.155(c).

(3) Results of the monthly composite analyses required under § 61.155(d).

(4) Results of continuous monitoring and logs of process operating parameters required under § 61.155 (c) and (d).

(5) The information on waste shipments received as required in § 61.154(e).

(6) For output materials where no analyses were performed to determine the presence of asbestos, record the name and location of the disposal site to which the output materials were deposited, and the date of disposal.

(7) Retain records required by paragraph (f) of this section for at least 2 years.

(g) Submit the following reports to the Administrator:

(1) A report for each analysis of product composite samples performed during the initial 90 days of operation.

(2) A quarterly report including the following information concerning activities during each consecutive 3-month period:

(i) Results of analyses of monthly product composite samples.

(ii) A description of any deviation from the operating parameters established during performance testing, the duration of the deviation, and steps taken to correct the deviation.

(iii) Disposition of any product produced during a period of deviation including whether it was recycled, disposed of as asbestos-containing waste material, or stored temporarily onsite until analyzed for asbestos content.

(iv) The information on waste disposal activities as required in § 61.154(f).

(h) Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is detected, or output materials produced when the operating parameters deviated from those established during the start-up performance testing, unless shown by transmission electron microscopy (TEM) analysis to be asbestos free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§ 61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

19. Section 61.156 is added to Subpart M to read as follows:

§ 61.156 Cross reference to other asbestos regulations.

In addition to this subpart, the regulations referenced below also apply to asbestos and may be applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross references are presented for the reader's information and to promote compliance with the cited regulations.

Agency	CFR Citation	Comment
EPA	40 CFR Part 763, Subpart E	Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.
	40 CFR Part 427	Effluent standards for asbestos manufacturing source categories.
	40 CFR Part 763, Subpart G	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.
OSHA	29 CFR 1910.1001	Worker protection measures—engineering controls, worker training; labeling, respiratory protection, bagging of waste, 0.2 f/cc permissible exposure level.
	29 CFR 1926.58	Worker protection measures for all construction work involving asbestos, including demolition and renovation—work practices, worker training, bagging of waste, 0.2 f/cc permissible exposure level.
MSHA	30 CFR Part 56, Subpart D	Specifies exposure limits, engineering controls and respiratory protection measures for workers in surface mines.
	30 CFR Part 57, Subpart D	Specifies exposure limits, engineering controls and respiratory protection measures for workers in underground mines.
DOT	49 CFR Parts 171 and 172	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

20. Section 61.157 is added to Subpart M to read as follows:

§ 61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under Section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States:

(1) Section 61.149(c)(2).
(2) Section 61.150(a)(5).
(3) Section 61.151(c).
(4) Section 61.152(b)(3).
(5) Section 61.154(d).
(6) Section 61.155(a).

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Figures to Subpart M

FIGURE 1. RECORD OF VISIBLE EMISSION MONITORING

Date of inspection (mo/day/yr)	Time of inspection (am/pm)	Control device or fugitive emission source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

FIGURE 2. AIR POLLUTION CONTROL DEVICE INSPECTION CHECKLIST

1. Control device designation or number .....
2. Date of inspection .....
3. Time of inspection .....
4. Is control device operating properly (Yes/No) .....
5. Tears, holes, or abrasions in bags (Yes/No) .....
6. Dust on clean side of bags (Yes/No) .....
7. Other signs of malfunctions or potential malfunctions (Yes/No) .....
8. Describe other malfunctions or signs of potential malfunctions .....
9. Describe corrective action(s) taken .....
10. Date and time corrective action taken .....
11. Inspected by:

(Print/Type Name) (Title) (Signature) (Date)

(Print/Type Name) (Title) (Signature) (Date)

Figure 3. Notification of Demolition and Renovation

I. Name, address, and telephone number of:
(a) Facility owner or operator

(name)

(address)

(phone number)

(person to contact and telephone number)
(b) Asbestos removal contractor

(name)

(address)

(phone number)

(person to contact and telephone number)

II. Type of operation: demolition ____ renovation ____

III. Description of facility
(a) Location
(b) Address
(c) Size (square meter [square feet] and number of floors)
(d) Age
(e) Prior use

IV. Is asbestos present? yes ____ no ____

V. Procedure used to detect the presence of asbestos material:

VI. Approximate amount of asbestos that is friable; nonfriable, but has the potential to be broken, crumbled, pulverized, or reduced to powder; and nonfriable. Specify amount of asbestos in terms of: linear meters (linear feet) on pipes; square meters (square feet) for surface area and cubic meters (cubic feet) for volume on both.
(a) Friable
(b) Nonfriable, but may become broken, crumbled, pulverized, or reduced to powder
(c) Nonfriable

VII. Scheduled dates of asbestos removal
Start
Completion

VIII. Scheduled dates of demolition or renovation
Start
Completion

IX. Description of planned demolition or renovation work, and method(s) to be used.

X. Description of work practices and engineering controls to be used to prevent emissions of asbestos.
(a) At the demolition and renovation site

(b) During storage of the waste

(c) At the waste disposal site

XI. If you are claiming an exemption from certain requirements of the asbestos NESHAP (40 CFR Part 61, subpart M) for all or part of the nonfriable asbestos reported in item VI (b) and (c) above, describe the procedures to be used to prevent nonfriable material from being broke, crumbled, pulverized, or reduced to powder.
(a) At the demolition site

(b) At the storage site

(c) At the waste disposal site

XII. Name and location of the waste disposal site

XIII. If ordered by a government agency, name, title, and authority of government agency requiring the demolition.

Date order issued
Date demolition ordered to begin

XIV. For emergency renovations
(a) Date and hour that the emergency occurred
(b) Description of the sudden unexpected event
(c) Explanation of how the event caused unsafe conditions or serious disruption of industrial operations

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XV. Description of procedures to be followed in the event that unexpected asbestos is found or previously nonfriable asbestos material becomes broke, crumbled, pulverized, or reduced to powder.

XVI. I certify that the following individual will be on site during the demolition or renovation and has been trained in the provisions of this regulation (40 CFR Part 61, subpart M) and evidence that the required training has been accomplished by this person will be available for inspection during normal business hours.

(name)

(title)

(years with firm)

(Signature of owner or operator)

(Date)

Figure 4. Asbestos Waste Tracking System

1. Work Site Name and Mailing Address ——
Owner's Name ——
Owner's Phone No. ——
Owner's Phone No. ——
2. Operator's Name and Address ——
Operator's Phone No. ——
Operator's US EPA ID No. ——
3. Waste Disposal Site (WDS) Name and Mailing Address ——
WDS Phone No. ——
WDS US EPA ID No. ——
4. Description of Materials
(a) ——
(b) ——
(c) ——
(d) ——
(e) ——
5. Containers No. and Type
(a) ——
(b) ——
(c) ——
(d) ——
(e) ——
6. Total Quantity ft³ or yd³
(a) ——
(b) ——
(c) ——
(d) ——
(e) ——
7. Special Handling Instructions and Additional Information

8. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.
Printed/Typed Name & Title ——
Signature ——
Month Day Year
9. Transporter 1 (Acknowledgement of Receipt of Materials)
Printed/Typed Name & Title ——
Signature ——
Month Day Year
10. Transporter 2 (Acknowledgement of Receipt of Materials)
Printed/Typed Name & Title ——
Signature ——
Month Day Year
11. Discrepancy Indication Space ——
12. Waste Disposal Site—Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 11. ——
Printed/Typed Name & Title ——
Signature ——
Month Day Year

INSTRUCTIONS

Waste Generator Section (Items 1–8)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces also enter the name of the owner of the facility and the owner's phone number.

2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number and the US EPA ID Number of the operator.

3. Enter the name and address of the waste disposal site (WDS) which will be receiving the asbestos materials. In the appropriate spaces also enter the phone number and US EPA ID Number of the WDS. Enter "on site" if the waste will be disposed of on the generator's property.

4. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, possibilities include, but are not limited to:

—Spray-on asbestos insulation from piping
—Wrapped asbestos insulation from piping
—Spray-on asbestos ceiling/wall insulation
—Asbestos ceiling tile
—Asbestos wallboard

5. Enter the number of containers used to transport the asbestos materials listed in item 4. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):

DM—Metal drums, barrels
DP—Plastic drums, barrels
BA—6 mil plastic bags or wrapping

6. Enter the friable and nonfriable quantities of each type of asbestos material removed in units of cubic feet (ft ³) or cubic yards (yd ³) as appropriate.

7. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

8. The authorized agent of the operator must read and then sign and date this certification. The date is the date of receipt by transporter.

Note: The operator must retain a copy of this form.

Transporter Section (Items 9–10)

9. & 10. Enter name of transporter firm, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

Note: The transporter must retain a copy of this form.

Disposal Site Section (Items 11–12)

11. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

12. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 11. The date is the date of signature and receipt of shipment.

Note: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

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FIGURE 5. INFORMATION REQUIRED ON INDIVIDUAL WASTE SHIPMENTS FOR SEMIANNUAL REPORTS

Generator						Name of first transporter	Name of second transporter	Disposal site[a]		
Name	EPA ID No.	Date shipped	Quantity (ft^3, yd^3)		Excepted shipment (Yes/No)[b]			Name	Date received	Date WSR[c] returned to generator
			Friable	Nonfriable						

NOTE: Indicate "NA" if not applicable.

[a] A site that converts asbestos-containing waste material to nonasbestos material is considered a disposal site.

[b] Indicate "yes" if more than 35 days have elapsed since the waste was shipped and a signed and dated waste shipment record (WSR) has not been returned by the disposal site.

[c] WSR=Waste Shipment Record.

II. In Part 763:

PART 763—[AMENDED]

1. The authority citation for 40 CFR Part 763 continues to read as follows:

Authority: 15 U.S.C. 2605 and 2607(c). Subpart E also issued under 15 U.S.C. 2641, 2643, 2646, and 2647.

2. By adding § 763.96 to Subpart E to read as follows:

§ 763.96 Disposal.

All persons participating in disposal activities affecting friable asbestos-containing material removed from a school building must comply with the provisions of 40 CFR Part 61, Subpart M—National Emission Standards for Asbestos. If such persons violate any provision of such subpart, it will be a violation of this section also.

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